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IN THIS BROADCASTING . . .

Sixth Report and Order
Final television allocations report of the
Federal Communications Commission
Part II, April 14, 1952 Issue

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XUM

Television for the New Orleans Market

(A statement of policy and an expression of thanks)

WWL thanks BROADCASTING & TELECASTING for their kind comment on our plans in their editorial of January 21, 1952.

New Orleans, a city of 600,000, is like other large communities. There is an urgent need for additional television service—to give the audience a choice of programs and the advertisers a choice of stations.

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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington 25, D. C.

In the Matters of Amendment of Section 3.606 of the Commission's Rules and Regulations	Docket Nos. 8736 and 8975
Amendment of the Commission's Rules, Regulations and Engineering Standards Concerning the Television Broadcast Service.	Docket No. 9175
Utilization of Frequencies in the Band 470 to 890 Mcs. for Television Broadcasting.	Docket No. 8976

SIXTH REPORT AND ORDER

By the Commission (Commissioner Bartley not participating; Commissioner Webster concurring; Commissioner Hennock concurring in part and dissenting in part; and Commissioner Jones dissenting.)

Adopted: April 11, 1952.

Released: April 14, 1952.

THE PROCEEDINGS

1. These proceedings were instituted on May 6, 1948, by a "Notice of Proposed Rule Making" (FCC 48-1569) designed to amend the Table of television channel assignments for the United States, set out in Section 3.606 of the Rules and Regulations of this Commission. During the hearing held by the Commission pursuant to this Notice, evidence was introduced which indicated the necessity for a revision of the Commission's Rules, Regulations and Standards with respect to the technical phases of the television broadcast service.

2. On September 30, 1948, the Commission issued a Report and Order (FCC 48-2182), commonly referred to as the "freeze order". In general, this Order provided that no new or pending applications for the construction of new television broadcast stations would be acted upon by the Commission; and that new and pending applications for modification of existing authorizations would be considered on a case-to-case basis with action thereon depending on the extent to which the requested modification affected the issues in the television proceeding. In adopting the "freeze order", the Commission pointed out that a national television assignment plan and the Commission's Rules, Regulations and Standards must be based upon, and must reflect, the best available engineering information. It was noted that the Commission could not continue to make assignments under the existing Table since the evidence presented at the hearing raised serious questions concerning the validity of the bases upon which the Table was constructed. The Commission noted that the granting of additional television authorizations would make more difficult any revisions in the Table made necessary by subsequent changes in the Rules and Standards.

3. The current phase of the television proceeding was initiated on July 11, 1949, by the issuance of the Commission's "Notice of Further Proposed Rule Making" (FCC 49-948). Attached to this Notice were four appendices: Appendix A set forth the Commission's proposals to amend its television Rules, Regulations and Engineering Standards: Appendix B set forth the methods and assumptions upon which the Commission's figures and values specified in Appendix A were based; Appendix C contained the Commission's proposed revision of its Table of television channel assignments throughout the United States and the Territories; and Appendix D contained illustrative assignments for Canada, Mexico and Cuba indicating the manner in which it might be necessary to take into account the use of channels by these countries.

4. In September 1949, the Commission began its hearings on the color television issues in this proceeding and its First and Second Color Reports were issued on September 1, 1950 and October 11, 1950, respectively (FCC 50-1064 and FCC 50-1224).

5. Subsequently, on October 16, 1950, the Commission began hearing the testimony of interested parties who had filed comments concerning the general issues set forth in Appendices A and B of the Notice of July 11, 1949. These extensive hearings continued until January 31, 1951, when the Commission recessed in order to study the record and determine whether it should proceed with the hearings on Appendices C and D in the light of the evidence adduced on the general issues.

6. On March 22, 1951, the Commission issued its "Third Notice of Further Proposed Rule Making" (FCC 51-244).[1] In Appendices A and B of the Third Notice, the Commission set forth its conclusions based on the hearing record developed with respect to the general issues. The Commission at the same time afforded interested parties the opportunity to object to the conclusions in Appendices A and B by filing statements of objections.

7. Appendices C and D of the Third Notice contained a new proposed Table of television channel assignments for the United States and the Territories and new illustrative assignments for Canada and Mexico. Pursuant to paragraph 12 of this Notice, parties were permitted to file comments and oppositions to such comments as might be filed by other persons with respect to the proposals in Appendices C and D.

8. On June 21, 1951, the Commission issued its "Third Report" (FCC 51-640) in the above entitled proceedings. In this Report, the Commission decided that it could not, at that time, take action to effect a partial lifting of the "freeze." On July 12, 1951, the Commission issued its "Fourth Report and Order" (FCC 51-693) which allocated to television broadcasting the frequency band 470-500 Mcs. On July 25, 1951, the Commission adopted its "Fifth Report and Order" (FCC 51-752) amending its "freeze order" to permit consideration on a case-to-case basis of applications by existing licensees and permittees for special temporary authority to increase power within certain defined limits.

9. On July 25, 1951, the Commission issued an Order (FCC 51-739) cancelling the oral hearings which were scheduled to take place pursuant to the Third Notice.[2] This Order provided all parties with an opportunity to file sworn statements or exhibits fully setting out their position in support of the pleadings they had filed. In addition, parties were permitted to submit sworn statements or exhibits directed against statements or exhibits offered by other parties and to file briefs with respect to any matter of fact or law raised by the evidence. The Commission also provided for oral presentations in addition to the submission of sworn statements or exhibits with respect to any issue which in the Commission's judgment could not be satisfactorily considered and disposed of without oral presentation.

10. The Order of July 25, 1951, also provided:

> "In view of the fact that the issues raised by Appendices A and B of the Third Notice of Further Proposed Rule Making (FCC 51-244) are interrelated with those raised by the issues to be determined in the remaining portion of these proceedings, and in order to permit parties to make a full presentation of their cases, the Commission has decided not to finalize Appendices A and B at this time. However, sworn statements or exhibits filed pursuant to paragraph 5 above must be consistent with Appendices A and B, with the following express exception: If a comment or opposition with respect to Appendices C and D of the Third Notice deviates from Appendices A and B, a sworn statement or exhibit inconsistent with Appendices A and B may be filed pursuant to paragraph 5 above if such statement or exhibit is inconsistent with Appendices A and B only to the extent that the comment or opposition is inconsistent with Appendices A and B."

11. Upon consideration of the entire record in this proceeding, the Commission is now in a position to issue a final Report with respect to the matters covered by Appendices A, B, C, and D of the Third Notice.

GENERAL CONSIDERATIONS SUPPORTING THE ADOPTION OF A TABLE OF ASSIGNMENTS FOR THE TELEVISION SERVICE

12. Toward the close of the War in 1945, when it appeared that the emergence of television as a regular broadcasting service was imminent, the Commission conducted a rule making proceeding (Docket 6780) resulting in the adoption of the existing television Rules and Standards, including the present Table of Assignments.[3] This earlier Table which employs VHF frequencies only, has served as a framework for the growth thus far of the television service. It has been urged in this proceeding that as a matter of policy[4] we should abandon the concept of a nationwide table of channel assignments and permit applicants from any community to apply for the use of any channels provided certain general engineering criteria were met. Upon careful consideration of the record in this proceeding we are convinced that the public interest requires our continued adherence to the concept of a table of channel assignments as the most effective method for assuring a fair distribution of television service throughout this country.

---

[1] Hereinafter referred to as the "Third Notice."

[2] The procedural steps leading to the cancellation of the oral hearings are described in the Order of July 25, 1951 (FCC 51-739).

[3] In FM also the Commission decided that the optimum distribution of stations could best be accomplished by a Table of Assignments.

[4] The Commission has already determined in its Memorandum Opinion of July 13, 1951 (FCC 51-709) that it has legal authority to prescribe such a Table of Assignments as part of its Rules.

13. The Communications Act of 1934, among other things, establishes as a responsibility of the Commission the "making available to all people of the United States, an efficient, nationwide, radio service," (Section 1), and the effectuation of the distribution of radio facilities in such a manner that the result is fair, efficient and equitable and otherwise in the public interest from the standpoint of the listening and viewing public of the United States (Sections 303 and 307b). Our conclusion that these standards can best be achieved by the adoption of a Table of Assignments is based upon three compelling considerations: A Table of Assignments makes for the most efficient technical use of the relatively limited number of channels available for the television service. It protects the interests of the public residing in smaller cities and rural areas more adequately than any other system for distribution of service and affords the most effective mechanism for providing for non-commercial educational television. It permits the elimination of certain procedural disadvantages in connection with the processing of applications which would otherwise unduly delay the overall availability of television to the people. Each of these factors is discussed below.

14. One of the principal reasons for an engineered Table of Assignments incorporated into our Rules is that it permits a substantially more efficient use of the available spectrum. It is clear that, mathematically, once a fixed station separation has been agreed upon, the maximum number of stations which can be accommodated on any given channel becomes fixed. In practice this theoretical maximum cannot be achieved since the location of cities capable of supporting such stations will not follow any such regular pattern of location. But an Assignment Table drawn upon an examination of the country as a whole can confidently be expected to more closely approximate the mathematical optimum, than would assignments of stations based upon the fortuitous determinations of individual applicants interested solely in the coverage possibilities in a particular community irrespective of the effect of such assignments on the possibility of making assignments in other communities. We are convinced that only through an engineered Table of Assignments can areas receiving no service or inadequate service be kept to a minimum.

15. In our opinion there is an equally significant reason why a Table of Assignments should be established in our Rules. For while the record in this proceeding demonstrates that the desire for broadcasting service from local stations, reflecting local needs and interests is widespread, experience has shown that many of the communities which cannot now support television stations but would eventually be able to do so, will in the absence of a fixed reservation of channels for their use, find that available frequencies have been preempted. The same is true with respect to the establishment of any significant number of noncommercial educational stations. It might, of course, be possible to achieve these results by allocating a large block of frequencies for these smaller cities and non-commercial educational television without specifying the assignment location of particular channels. But we are convinced that this could only be done at the expense of unnecessarily reducing the total number of channels available to meet other television needs.

16. A further consideration compels us to adopt the Table. When we resume the processing of applications for television stations, we expect to have on file an exceedingly large number of applications. We find that in the absence of a fixed Assignment Table it would be unduly complex—and perhaps impossible—to decide all conflicting demands among communities in individual licensing proceedings. Once it is recognized that these conflicting demands are interrelated, it becomes apparent that they can most satisfactorily be decided in one hearing. Moreover, a question is raised in view of the decision of the Supreme Court in *Ashbacker Radio Corp.* v. *Federal Communications Commission*, 326 U. S. 327, whether it would not be necessary as a matter of law to decide all these cases in one or several very large proceedings. Accordingly, we find that the determination of the questions relating to the equitable distribution of facilities among the cities and states in one rule making proceeding such as we have here conducted was conducive to the best dispatch of our business, satisfied the ends of justice and was required in the public interest.

17. It is contended that the establishment of a Table of Assignments such as has been adopted herein does not provide sufficient flexibility in the assignment of channels as to enable us to recognize economic, geographic, population and other pertinent differences between communities and areas. This is in effect an argument that a Table of Assignments cannot possibly achieve results which are as much in the public interest, convenience and necessity, or as "fair, efficient and equitable" as the "application" or "demand" method of assigning channels. But it has not been in any wise demonstrated by anyone making this contention that the end result of the claimed "flexibility" for the "application" or "demand" method of assigning television channels throughout the country will be a more fair, or more equitable, or a more efficient assignment of television facilities throughout the country. Indeed, it is almost self evident that assignments made upon the "application" or "demand" method necessarily leads to results which do not adequately reflect *on a nationwide basis* significant comparative needs as well as differences among communities throughout the country. We find no merit in the contention that by the adoption of a Table we have generally or specifically disregarded any pertinent public interest factors. We have given parties a full opportunity to present comments and evidence with respect both to the basic principles and standards underlying the Table and with respect to proposed assignments for specific communities. Particularly, where parties did not think our proposed assignments were fair or equitable, or where they felt that we have improperly assigned channels to individual communities, they have been afforded an opportunity to establish their contentions in this hearing. All these objections and the relevant comments and evidence have been most carefully considered in connection with our decision herein.

18. In view of the foregoing, we find that the public interest requires the establishment of a Table of Assignments such as we have adopted herein.

THE CHANNELS
Use of the VHF

19. Since the deletion of Channel 1 in 1948 the Commission has allocated 12 channels, Channels 2-13 in the 54-216 Mc. band, for use by the television broadcast service. The Commission's Third Notice proposed to continue this allocation.

20. Two parties filed comments pursuant to Paragraph 11 of the Third Notice objecting to the fact that the Commission has not provided additional VHF channels. Allen B. DuMont Laboratories, Inc.,[5] objects that no finding was made on the feasibility of allocating 1 or more additional VHF channels. A. Earl Cullum, Jr., objects that an additional television channel was not allocated in the frequency range from 72 to 78 Mcs.

21. In order to allocate additional VHF channels to the television service, it would be necessary to delete frequencies from one or more of the other radio services which have been allocated frequencies in this portion of the radio spectrum. While there is testimony in the record as to the possibility and alleged desirability of such a reallocation of frequencies, this proceeding has included no issue or proposal by the Commission or the parties for the reallocation of specific frequencies nor any evidence evaluating the comparative needs of the various radio services for the pertinent VHF frequencies. Accordingly, this proceeding affords no basis for a decision withdrawing frequencies from other services (both government and non-government) for the purpose of creating additional VHF television channels.

Utilization of the Entire UHF Television Allocation

22. In the Third Notice, the Commission stated with respect to the utilization of the UHF bands:[6]

> B. *Utilization of entire UHF band.* In its Notice of Further Proposed Rule Making issued on July 11, 1949, the Commission proposed to assign forty-two 6-megacycle channels (14 through 55) in the lower portion of the UHF band for commercial television broadcasting. The Commission proposed to assign 32 of the above UHF channels for use by metropolitan stations and the remaining 10 channels for use by community stations. During the hearings conducted by the Commission with respect to the general issues in the pending television proceedings, testimony was presented which favored the allocation of the entire UHF band for commercial television broadcasting.
>
> Although some testimony was presented which favored the allocation of a portion of the UHF band at this time pending the acquisition of additional data, greater support was given to the proposal to assign television channels in the entire UHF band for immediate use. It was urged that a need existed for additional commercial television channels; that such an allocation would encourage developments in UHF equipment; and that due to problems not previously considered, i.e., oscillator radiation, intermodulation, image interference, etc., more channels were necessary to provide an adequate number of usable channels. Some testimony was presented to the effect that the allocation of the lower portion of the UHF band was preferable because better coverage and equipment performance could be expected there. On the other hand, there was testimony to the effect that differences would not be appreciable throughout the entire UHF band. In any event, the effect of such differences on the optimum utilization of the band are likely to be small. Accordingly, the Commission has concluded that allocation of the entire UHF band for television broadcasting on a regular basis would result in the maximum utilization of television channels in the United States and would be in the public interest.

23. Comments in support of the above proposal have been filed by the American Broadcasting Company and RCA-NBC. The great demand for television service both by commercial and non-commercial educational interests evidenced in the portion of the proceeding dealing with Appendices C and D of the Third Notice clearly supports the use at this time of the entire UHF television allocation for regular television operations. No objection to the proposal was filed. Accordingly, the Commission herewith finalizing the allocation of the entire UHF television band for use at this time by television on a regular basis.

24. The Commission's Third Notice left undecided the manner in which the band 470 to 500 Mc would be allocated. At that time the Commission had not yet determined whether that band should be allocated to multi-channel broadband common carrier mobile radio service or to television broadcasting. In the Fourth Report and Order in these proceedings (FCC 51-693) the Commission allocated the 470-500 Mc. band for television broadcasting. The grounds for its decision are set

[5] In 1948 during the first part of these proceedings DuMont suggested a means of obtaining additional VHF channels by the use of government frequencies. Since DuMont did not refer to this proposal in the comment filed pursuant to the Third Notice, no further consideration is being given to that proposal. See also Paragraph 4 of the Notice of Further Proposed Rule Making issued July 11, 1949, in this proceeding (FCC 49-948).

[6] The UHF band is defined to include the frequency range 300 Mc.-3000 Mc. Television is allocated that portion of the UHF band between 470 and 890 Mcs.

forth fully in the Fourth Report and Order. Accordingly, the Commission is now in a position to make available for the television broadcast service 70 UHF channels (Channels 14 through 83), located between 470-890 Mc.

25. Statements were filed by Mercer Broadcasting Company, Trenton, New Jersey; Lehigh Valley Television, Inc., Allentown, Pennsylvania; Radio Wisconsin, Inc., Madison, Wisconsin; and Presque Isle Broadcasting Co., Erie, Pennsylvania, contending, among other things, that all commercial television stations should be assigned to the UHF band. The statements allege that many of the economic and competitive problems which would arise because television broadcasting will be expanded into the UHF portion of the spectrum would be obviated if no commercial television broadcasting were permitted in the VHF. These objections, however, do not point out any specific testimony or evidence to support the large scale reallocations and reassignments which would thereby be required nor do they make any concrete proposal. We are not, moreover, convinced that an adequate showing has been made that sufficient spectrum space would be provided for an adequate nationwide television service if only the UHF portion of the spectrum is allocated for commercial television broadcasting. Accordingly, we have decided that commercial television operations should be provided for in both bands of the spectrum allocated for television broadcasting.

The Use of Channels 66-83 (782-890 Mc.)

26. In making up the Table of Assignments proposed in the Third Notice the Commission made specific assignments to particular cities and communities only on Channels 2 through 65. Channels 66 to 78 or 83 [7] were designated as flexibility channels and no specific assignments to indiyidual cities or communities were made on these channels. It was provided in the Third Notice that persons desiring to file an application for a station in a community which (1) is not listed in the Table of Assignments and (2) is not eligible for an assignment, without the necessity of rule making proceedings, might file an application for a station on one of the flexibility channels without further rule making. It was provided, however, that stations on flexibility channels could not be applied for, in this manner, in any community assigned a channel in the Table or which was otherwise eligible for such an assignment without further rule making under the 15 mile rule.[8]

27. In addition to the use of flexibility channels as set forth above, the Third Notice provided for the use of flexibility channels for experimentation in stratovision and polycasting. As has been pointed out in another portion of this Report no comments have been filed pursuant to Paragraph 11 of the Third Notice with further reference to the stratovision or polycasting. Several of the parties [9], however, have made proposals for the use of Channels 66-83 in a manner other than that provided for in the Third Notice. Objection has been made to the proposal of the Commission to set aside some of the UHF for use as flexibility channels and parties have requested that the Commission at this time assign all of the channels in the UHF to specific communities. Two arguments are made. First, that certain specific communities have present need of an assignment that only can be established if use is made of Channels 66-83 for specific assignments. The other contention is that if all of the 782-890 Mc. band is not fully assigned at this time an inefficient use will be made of the channels available in this band.

28. At the outset it should be pointed out that the provision for flexibility channels (Channels 66-83) in the Third Notice was itself a reservation, although not a specific reservation for particular cities or communities, made to assure that channels will be available for cities and communities not otherwise provided for on Channels 2-65 of the Table of Assignments, particularly the smaller cities and communities of the country. Clearly, the Commission should leave some of the spectrum allocated to television unassigned. For while the Commission may, upon the basis of the evidence, viewed in the light of its experience with broadcasting, make reasonable provision for television facilities in the various communities of the country, it cannot predict with complete accuracy every community in which there may eventually develop demand for television. Accordingly, it is desirable to leave a portion of the spectrum allocated to television unassigned.

29. We therefore adhere to our proposal in the Third Notice that the whole of the spectrum allocated to television should not be assigned at this time to specific cities or communities. As a matter of fact, it is clear from inspection of the Table adopted herein that possible assignments have not been made on Channels 2-65 as well as on Channels 66-83. We recognize, however, that need may exist at this time for the assignment of additional channels to individual cities and communities even though they have already been assigned channels in the Table. Therefore, where a request has been made for the assignment of a channel to an individual community, we have on a case-to-case basis considered whether such an assignment should be made in the Table of Assignments. We wish to point out, however, that the Commission must act carefully in considering assignments to communities that already have assignments, particularly on Channels 66-83. The number of assignments that can physically be made on Channels 66-83, particularly in areas where cities are located close together, is indeed limited. Accordingly, it must be clearly and affirmatively demonstrated that a channel from the group 66-83 should be assigned at this time to a community which has assignments in the Table before we will make an additional assignment to the community. The portion of this spectrum left unassigned is intended to be used primarily in cities and communities without any assignments in the Table and in situations where either non-commercial educational or commercial assignments are not included in communities listed in the Table.

30. In view of the comments that have been filed and upon consideration of the whole record, we believe, however, we should not permit channels 66-83 to be used solely on the basis of the filing of an application but should rather require applicants to secure an assignment in the Table by rule making before the application for a station will be considered. By doing so we are in a position to minimize any inefficiency involved in the proposal made in the Third Notice.[10] Accordingly, in the Rules we have adopted herein, no application for a television station will be considered by the Commission if the channel requested is not listed as an assignment to the community involved in the Table of Assignments.

31. The Joint Committee on Educational Television suggested in a comment that the proposal with respect to flexibility channels be modified so as to permit an educational institution to make application for a non-commercial educational television station on Channels 66-83 in any community in which no channel has been reserved for such a station. The same proposal has been made for similar reasons by the Board of Regents of the University of the State of New York, the Public Schools, Springfield, Massachsetts, Gary Public Schools, Gary, Indiana, Utah State Agricultural College, Logan, Utah, the State of New Jersey, and the Connecticut State Board of Education. The effect of this proposal would be to permit Channels 66-83 to be used on an application basis for non-commercial educational purposes not only in cities which are not assigned a television channel under the Table, but also in cities with commercial assignments but which do not have an educational reservation. No one has objected to these proposals.

32. We recognize that cities which do not have educational reservations or a non-commercial educational station in operation should have an opportunity to use any portion of the spectrum unassigned for such purpose. Accordingly, where an appropriate showing is made in a rule making proceeding, as indicated above, assignments in the Table will be made for non-commercial educational stations where the community involved does not have an educational reservation and no non-commercial educational station is in operation. [11]

THE EDUCATIONAL RESERVATION

33. Section VI of Appendix A of the Third Notice contained a statement that as a matter of policy certain assignments in the VHF and UHF would be reserved for the exclusive use of non-commercial television stations. Careful consideration has been given to the exceptions taken to this policy proposal in comments filed by several parties [12] pursuant to Paragraph 11 of the Third Notice. For the reasons set forth below, the Commission has concluded that the record does support its proposal [13] and it is hereby adopted in the public interest as the decision of the Commission.

34. The only comments directed against the proposal which fulfill the requirements of Paragraph 11 of the Third Notice are those filed by NARTB-TV and Allen B. DuMont Laboratories, Inc. The others do not specify their objections nor do they cite the evidence on which their objections are based. It is difficult to ascertain in some cases whether the objection is in fact based upon the view that there is a failure of the record to support the proposal or upon some other general disagreement with the proposal. Since, however, the comments filed with NARTB-TV and DuMont clearly cover all the objections to the proposal made by any

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[7] The use of the 470-500 Mc. band was still under consideration at the time of the issuance of the Third Notice.

[8] The Third Notice, as amended by FCC 51-410, provided:

"A channel assigned to a community in the Commission's Table of Television Assignments shall be available, without the necessity of rule making proceedings, to any other community which is located within 15 miles of the assigned community and which has no assignment of its own provided the minimum separations set forth in Paragraphs E and G herein are maintained."

[9] Communications Measurements Laboratories, Inc., New York; Radio Kentucky, Inc., Louisville, Kentucky; Radio Virginia, Inc., Richmond, Virginia, and Kingston Broadcasting Corporation, Kingston, New York, all have filed objections which request that the Commission assign all of the UHF band allocated to television and leave no channels for use as flexibility channels. DuMont proposed that channels in the 782-890 Mc. band be made available for use by any applicant.

[10] The manner in which Channels 66-83 may be assigned is already determined and limited to a substantial degree by the assignments in the Table together with the minimum assignment spacing requirements adopted herein. Whatever the inefficiency that may remain, we believe that the flexibility retained by leaving some of the television spectrum unassigned is necessary and desirable in order that adequate provision can be made for smaller cities without assignments in the Table and to provide for some future adjustment of the Table.

[11] In recognition of the fact that the unassigned portions of the spectrum are being reserved primarily for cities and communities without assignments or without any non-commercial educational or commercial assignments, we have below provided an exception to the general one year ban on amendment of the Table of Assignments, so that petitions to amend the Table will be considered and acted on in this one year period upon petition (1) for assignment of a channel where no assignment has been made in the Table to a community, and the community is not eligible for an assignment under the 15 mile rule (2) for assignment of a non-commercial educational channel where no such assignment under the Table of Assignments is available in the community involved or (3) for assignment of a commercial channel to any community listed in the Table to which no commercial assignment has been made.

[12] These parties are: NARTB-TV, Allen B. DuMont Laboratories, Inc., Radio Kentucky, Inc., Capitol Broadcasting Co., and The Tribune Co. Some comments were filed which challenged the power of the Commission under the Communications Act to reserve channels for this purpose. Such contentions have been disposed of by the Commission's Memorandum Opinion of July 13, 1951 (FCC 51-709). Other comments objected to the reservation of a channel in a given community. These objections have been considered in another portion of this Report. The Joint Committee on Educational Television filed comments in support of the educational reservation, as did many individual educational institutions, and other civic non-profit organizations.

[13] Communications Measurements Laboratories, Inc. has taken issue with the use of the word "nationwide" in describing the reservation of channels for this purpose. The proposal is self-explanatory in this respect. Although channels have been reserved throughout the nation, the reservation does not set apart any single channel or group of channels on a nationwide basis.

of the other parties, a discussion of their exceptions will cover those of the other parties, and it will not be necessary to determine whether the latter comments must be rejected for failure to comply with the provisions of Paragraph 11 of the Third Notice.

35. In view of the rather comprehensive and detailed exceptions taken to Section VI of Appendix A it is necessary to review the nature and extent of the Commission's proposal in the Third Notice. An extensive hearing was held by the Commission on the issue: whether television channels should be reserved for the exclusive use of non-commercial educational stations. A total of 76 witnesses testified on this issue.[14] Among the subjects upon which the proponents of reservation presented evidence were: the potential of educational television both for in-school and adult education, and as an alternative to commercial programming; the history of education's use of other broadcast media and of visual aids to education; the possibility of immediate or future utilization of television channels by public and private educational organizations and the methods whereby such utilization could be effectuated; the type of program material which could be presented over non-commercial television stations; the history of and prospects for educational organizations' securing broadcast opportunities from commercial broadcasters; and the number of channels, both UHF and VHF, which would be required to satisfy the needs of education throughout the country. The witnesses who opposed the principle of reservation, contending that it was unlikely that educators would make sufficient use of the reserved channels to warrant withholding them from commercial applicants, and that the best results could be achieved by cooperation between educational groups and commercial broadcasters, testified principally about the past record of educators in broadcasting, the cost of a television station, and cooperation between commercial broadcasters and educational institutions.

36. On the basis of the record thus compiled, the Commission concluded, as set forth in the Third Notice, that there is a need for non-commercial educational television stations; that because educational institutions require more time to prepare for television than commercial interests, a reservation of channels is necessary to insure that such stations come into existence; that such reservations should not be for an excessively long period and should be surveyed from time to time; and that channels in both the VHF and UHF bands should be reserved in accordance with the method there set forth.

37. It has been contended that the record in this proceeding fails to support the Commission's proposal in three basic respects; that it has not been shown that educational organizations will, in fact, require a longer period of time to prepare to apply for television stations than commercial broadcasters; that it should have been found that the reservation of channels for this purpose will result in a waste of valuable frequency space because of non-usage and because of the limited audience appeal that educational stations will have; and that no feasible plan for stable utilization of channels by educational institutions has been advanced, particularly with respect to the problem of licensee responsibility.

38. None of the commenting parties have contended that the record has failed to support the findings of the Commission in the Third Notice that, based on the important contributions such stations can make in the education of the in-school and adult public, there is a need for non-commercial educational stations. The objections to the Commission's proposal must, therefore, refer to the desire and the ability, as evidenced in the record, of the educational community to construct and operate such stations.[15] We conclude that the record shows the desire and ability of education to make a substantial contribution to the use of television. There is much evidence in the record concerning the activities of educational organizations in AM and FM broadcasting. It is true and was to be expected that education has not utilized these media to the full extent that commercial broadcasters have, in terms of number of stations and number of hours of operation. However, it has also been shown that many of the educational institutions which are engaged in aural broadcasting are doing an outstanding job in the presentation of high quality programming, and have been getting excellent public response. And most important in this connection, it is agreed that the potential of television for education is much greater and more readily apparent than that of aural broadcasting, and that the interest of the educational community in the field is much greater than it was in aural broadcasting. Further, the justification for an educational station should not, in our view, turn simply on account of audience size. The public interest will clearly be served if these stations are used to contribute significantly to the educational process of the nation. The type of programs which have been broadcast by educational organizations, and those which the record indicates can and would be televised by educators, will provide a valuable complement to commercial programming.

39. We do not think there is merit in the contention that the record, with respect to the general phase of the hearing, does not support the general principle of a reservation of channels for educational purposes as set out in the Third Notice because it does not contain detailed information with regard to the desire, ability and qualifications of the educational organizations to construct a non-commercial educational station, or the competing commercial interests which desire to bring television service to the public. In preparing a proposed Assignment Table for the entire nation which would provide the framework for the growth of television for many years to come, we could not limit our perspective to immediate demand for educational stations under circumstances where all communities did not have an opportunity to give full consideration to the possibilities of television for educational purposes and to mobilize their resources. Moreover, evidence of specific demand for educational television was submitted for several communities in the general phase of the hearing, and in addition there was presented an estimate of the number of channels required for this purpose for one section of the country based upon the size of the various communities and their general educational requirements. We do not think it unreasonable to believe that general principles of assignment may be derived from such evidence, and that such principles may validly be applied to comparable communities, for the purposes of drawing up a nationwide assignment plan. See, e.g., *The New England Divisions Case*, 261 U. S. 184, 197-199 (1923).

40. Moreover, the Third Notice provided for the contesting of specific reservations in any community. The Assignment Table adopted below has been prepared after consideration of the specific evidence in support of, as well as in objection to, specific proposed reservations and after consideration of the overall needs of all communities for television service.

41. The great preponderance of evidence presented to the Commission has been to the effect that the actual process of formulating plans and of enacting necessary legislation or of making adequate financing available is one which will generally require more time for educational organizations than for commercial interests. The record does, of course, show that there are some educational institutions which are now ready to apply for television broadcasting licenses, but this in no wise detracts from the unavoidable conclusion that the great mass of educational institutions must move more slowly and overcome hurdles not present for commercial broadcasters, and that to insure an extensive, rather than a sparse and haphazard development of educational television, channels must be reserved by the Commission at this time. There is moreover, abundant testimony in the record that the very fact of reserving channels would speed the development of educational television. It was pointed out that it is much easier for those seeking to construct educational television stations to raise funds and get other necessary support if the channels are definitely available, than if it is problematical whether a channel may be procured at all.

42. With regard to possible waste of the reserved channels by non-use, it is contended that evidence offered in the general portion of the hearing, concerning the record of performance of non-commercial educational agencies in aural broadcasting, and their plans and abilities to meet the installation and programming costs of television, can lead only to the conclusion that waste of limited spectrum space through non-usage will result from the reservation of channels for non-commercial educational stations. To whatever extent the position taken in these exceptions is that any immediate non-use of channel space available for television constitutes a waste of channels the Commission cannot agree. The basic nature of a reservation in itself implies some non-use: to attribute waste of spectrum to the Commission's proposal concerning the use of certain channels by non-commercial educational stations without attributing it to those assignments in the Table for smaller cities, which may not be used for some time, is misleading. The very purpose of the Assignment Table is to *reserve* channels for the communities there listed to forestall a haphazard, inefficient or inequitable distribution of television service in the United States throughout the many years to come. Moreover, as pointed out in another portion of this Report, the whole of the Table of Assignments including the reservations of channels for use by non-commercial educational stations is subject to alteration in appropriate rule making proceedings in the future and any assignment, whether a educational reservation or not, may be modified if it appears in the public interest to do so.

43. We do not believe that in order to support our decision to reserve channels for non-commercial educational stations it is necessary that we be able to find on the basis of the record before us in the general phase of the hearing that the educational community of the United States has demonstrated either collectively or individually that it is financially qualified at this time to operate television stations. One of the reasons for having the reservation is that the Commission recognizes that it is of the utmost importance to this nation that a reasonable opportunity be afforded educational institutions to use television as a non-commercial educational medium, and that at the same time it will generally take the educational community longer to prepare for the operation of its own television stations than it would for some commercial broadcasters. This approach is exactly the same as that underlying the Assignment Table as a whole, since reservations of commercial channels have been made in many smaller communities to insure that they not be foreclosed from ever having television stations.

44. Although the record in the general phase of the proceeding does not contain any detailed showing on a community-by-community basis that the educational organizations have made detailed investigation of the costs incident to the construction and operation of television stations and of the exact sources from which such funds could be derived in the near future, nevertheless, the record, as a whole, does indicate that educational organizations in most communities where reservation has finally been made will actually seek the new

[14] Of this number, all but five were called by educational organizations or testified in their own behalf in support of the position taken by such organizations in favor of an affirmative resolution of the question. Two other witnesses were in favor of the principle of reservations but differed with witnesses presented on behalf of educational groups with respect to the manner and extent of reservation.

[15] DuMont, in its Comments in Opposition to Comments and Proposals of Other Parties, has submitted the results of a survey which bear upon this question. Insofar as the survey bears upon any specific reservation, DuMont had the opportunity to present it in the portion of the hearing dealing with Appendix C. The Third Notice was not intended to permit the filing of new material on the matters which were already the subject of hearing. DuMont had an opportunity to present this type of evidence in the general phase of the proceeding.

ary funds. Furthermore, interested persons have had an opportunity to present evidence in the city-by-city portion of the hearings as to whether such funds will be sought or will become available in specific communities. It will admittedly be a difficult and time consuming process in most instances, but the likelihood of ultimate success, and the importance to the public of the objective sought, warrants the action taken. Several educational institutions, it was indicated on the record as early as the general portion of the hearing, had applied for television stations. The amounts of money spent by other public and private educational groups in aural broadcasting indicates that the acquisition of sufficient funds for television would not be an insurmountable obstacle. It has been shown, for example, that considerable sums have already been spent on visual aids to education. Television is clearly a fertile field for endowment, and it seems probable that sufficient funds can be raised both through this method and through the usual sources of funds for public and private education to enable the construction and operation of many non-commercial educational stations. As concerns the costs of operation there is the possibility of cooperative programming and financing among several educational organizations in large communities. The record indicates that educational institutions will unite in the construction and operation of non-commercial educational television stations. Such cooperative effort will, of course, help to make such stations economically feasible. The fact that somewhat novel problems may arise with respect to the selection and designation of licensees in this field does not—as some have contended—constitute a valid argument against the concept of educational reservations.

45. Several alternative methods for utilizing television in education have been presented to the Commission, but we do not think that any of them is satisfactory. One proposal is to utilize a microwave relay or wired circuit system of television for in-school educational programs. It appears that the cost of a wired circuit for the schools in larger cities might be prohibitive; but the determinative objection to such a proposal is that it would ignore very significant aspects of educational television. It is clear from the record that an important part of the educator's effort in television will be in the field of adult education in the home, as well as the provision of after school programs for children.

46. The NARTB-TV contended that the solution lay in the voluntary cooperation of educators and commercial broadcasters in the presentation of educational programs on commercial facilities. We conclude, however, that this sort of voluntary cooperation cannot be expected to accomplish all the important objectives of educational television. In order for an educational program to achieve its purpose it is necessary that broadcast time be available for educators on a regular basis. An audience cannot be built up if educators are forced to shift their broadcast period from time to time. Moreover, the presentation of a comprehensive schedule of programs comprising a number of courses and subjects which are designed for various age and interest groups may require large periods of the broadcast day which would be difficult if not impossible to obtain on commercial stations.

47. Another alternative was proposed by Senator Edwin C. Johnson of Colorado. This proposal is elaborated in the Senator's statement:

> "It is my belief as I have repeatedly said that the Commission could and should impose a condition on all television licenses that a certain amount of time be made available for educational purposes in the public interest as a sustaining feature. In this manner, television can become available for educational work now without saddling schools with the enormous burden and expense of constructing and operating a non-commercial educational station. . . . It is my considered opinion that the Commission can best serve the public interest and at the same time extend extremely profitable assistance to the educational processes of this country by imposing a condition in each television license issued which would require the availability of appropriate time for educational purposes."

48. It must be remembered that the provision for non-commercial educational television stations does not relieve commercial licensees from their duty to carry programs which fulfill the educational needs and serve the educational interests of the community in which they operate. This obligation applies with equal force to all commercial licensees whether or not a non-commercial educational channel has been reserved in their community, and similarly will obtain in communities where non-commercial educational stations will be in operation.

49. Aside from the question of the legal basis of a Rule which would accomplish Senator Johnson's proposal, the Commission feels it would be impracticable to promulgate a rule requiring that each commercial television licensee devote a specified amount of time to educational programs. A proper determination as to the appropriate amount of time to be set aside is subject to so many different and complex factors, difficult to determine in advance, that the possibility of such a rule is most questionable. Thus, the number of stations in the community, the total hours operated by each station, the number of educational institutions in the community, the size of the community, and countless other factors, each of which will vary from community to community, would make any uniform rule applicable to all TV stations unrealistic. All things considered, it appears to us that the reservation of channels for non-commercial educational stations, together with continued adherence by commercial stations to the mandate of serving the educational needs of the community, is the best method of achieving the aims of educational television.

Who May Be Licensed To Operate Non-Commercial Educational Stations.

50. While the Third Notice did not specify who would be eligible to own and operate a non-commercial educational station, the Commission has in the past restricted the ownership and operation of such stations to non-profit educational organizations.

51. The United States Conference of Mayors and the Municipal Broadcasting System, City of New York, have in appropriate comments proposed that eligibility be extended to any municipality operating educational institutions. The Municipal Broadcasting System states that a "more expeditious management of educational television in the City of New York from an administration standpoint" would result if it were permitted to operate a television station. It further stated that "if the Municipal Broadcasting System is eligible to operate television facilities, the station can be utilized by all of the educational institutions over which it has jurisdiction, rather than having responsibility for the operation placed in a particular school."

52. The Commission is of the opinion that in any community where an independent educational agency is constituted, and is eligible under the Commission's rules to apply for a non-commercial educational television station, there are no compelling reasons for extending eligibility to municipal authorities. The continued operation by the Board of Education of the City of New York since 1939 of non-commercial educational Station WNYE indicates that no insurmountable administrative barriers exist which would preclude the Board of Education as a potential licensee in the television field. Similarly, there is no evidence to indicate that the Board of Education of the City of New York, now eligible under the present rules, would give less access to other educational institutions were it the licensee of a television station than would the Municipal Broadcasting System were it eligible and granted a license. It should be noted that in any community the municipal authorities, or any other group, can take the initiative in constituting a consolidated television authority which would represent municipal educational institutions, private universities and other organizations concerned with education.

53. The Commission has, however, established in its Rules an exception providing that where a municipality has no independently constituted educational entity which would be eligible under the rules, the municipality in such case will be eligible to apply for a non-commercial educational station. This exception is designed solely to meet those situations where the municipal authorities do not delegate educational authority but reserve to themselves the management of the municipal educational system.

Partial Commercial Operation By Educational Stations

54. In its comments the University of Missouri[16] requests that the Commission authorize ". . . commercial operation on the channels reserved for educational institutions to an amount equal to 50% of the broadcast day." It appears from the evidence that funds in the amount of $350,000 are presently available to the University for the construction of a television station, but that no funds are available for the operation of such a station. Accordingly, the University requests that the Commission permit educational institutions to use the reserved assignments to operate stations on a limited commercial non-profit basis. It is urged that if its request is granted the following objectives will be attained:

A. More educational institutions will be in a position to construct and operate television stations throughout the country to the benefit of the public at large without materially affecting the strictly commercial stations;

B. Educational television stations will be able, through income received from commercial programs to better program their stations; and

C. That the commercial programs televised will break the monotony of continuous educational subjects so as to permit the stations to attract and hold audiences.

55. A similar proposal, that the Commission extend the reservation to include all educational institutions which are operated on a non-profit basis, is made by the Bob Jones University (WMUU) Greenville, South Carolina. The Bob Jones University argues that ". . . the reservation of the privilege of a commercial income commensurate with the operating expense of the educational station . . ." will result in the encouragement and aid to television broadcasting by educational institutions.

56. KFRU, Inc., Columbia, Missouri, opposed the request of the University of Missouri. In its reply to the University, KFRU states that it has no objection to the proposed reservation of Channel 8 for non-commercial education purposes in Columbia, Missouri. However, it opposes the request of the University for partial commercial operation on the grounds that such an operation would give the educational institution unfair competitive advantages over a commercial licensee.

57. It is our view that the request of the University of Missouri and the Bob Jones University must be denied. In the Third Notice we stated:

> In general, the need for non-commercial educational television stations was based upon the important contributions which non-commercial educational television stations can make in educating the people both in school—at all levels—and also the adult public. The need for such stations was justified upon the high quality type of programming which would be available on such stations—programming of an entirely different character from that available on most commercial stations.

A grant of the requests of the University of Missouri and Bob Jones University for partial com-

[16] See the discussion, elsewhere in this Report, of the assignments in Columbia, Missouri.

mercial operation by educational institutions would tend to vitiate the differences between commercial operation and non-commercial educational operation. It is recognized that the type of operation proposed by these Universities may be accomplished by the licensing of educational institutions in the commercial television broadcast service. But in our view achievement of the objective for which special educational reservations have been established—i.e., the establishment of a genuinely educational type of service—would not be furthered by permitting educational institutions to operate in substantially the same manner as commercial applicants though they may choose to call it limited commercial non-profit operation.

58. The Joint Committee on Educational Television suggests in its final brief that, in communities where only one VHF channel is assigned, and that channel is reserved for use by a non-commercial educational station, the non-commercial educational station should be allowed to broadcast programs which at present are available only from commercial network services. This exception would apply until such time as a commercial Grade A service is available in the area.

59. On January 10, 1952, a Reply and Motion to Strike was filed by Peoria Broadcasting Company, Rock Island Broadcasting Company and Champaign News-Gazette, Inc., with respect to the above described proposal of the Joint Committee. On January 25, 1952, a response to the Joint Motions was filed by the JCET. In view of the fact that the proposal made by the Joint Committee was not previously raised in any of its prior pleadings, the Motion to Strike is granted and the proposal is being given no further consideration.

The Use Of The VHF For Non-Commercial Educational Television

60. The Commission's Third Notice proposed to reserve one of the assigned channels for non-commercial educational television use in all communities having a total of three or more assignments (whether VHF or UHF). Where a community had fewer than three assignments no reservation as proposed except in those communities which were designated as primarily educational centers, where reservations were made although only one or two channels were assigned. Except for educational centers, a UHF channel was proposed in those communities where there were fewer than three VHF assignments. In 26 of the 46 educational centers, the Commission proposed to reserve a VHF channel for educational use. In 23 of these 26 centers a VHF educational reservation was proposed where only one VHF channel was assigned to the community. Where three or more VHF channels were assigned to a community, a VHF channel was proposed to be reserved except in those communities where all VHF assignments had been previously licensed. In those cases, the reservation of a UHF channel was proposed.

61. The Joint Committee on Educational Television in its comment has proposed that a VHF reservation for non-commercial educational institutions in place of a UHF reservation be considered in communities with less than three VHF assignments. On the other hand, some parties have argued that no assignments in the VHF be set aside as educational reservations. The Commission's Third Notice stated that the proposed reserveations were not final and that consideration would be given to any specific proposal looking toward additions or deletions. After examining the comments and evidence filed pursuant to the Third Notice, the Commission remains of the view that the bases upon which it determined the apportionment of non-commercial educational assignments by communities are generally sound and should be continued. However, in particular cases the Commission concludes that the evidence warrants deviations from the proposals in the Third Notice, for the reasons stated in the city-by-city portion of this Report.

62. The Joint Committee on Educational Television also proposes that the Commission should specifically state that an educational interest is not to be foreclosed from applying for a VHF channel in the so-called "closed cities" where all VHF assignments have already been made. No properly qualified applicant is ever precluded from applying for any channel in the broadcast field on the expiration of the existing license. Thus, whether educational interests seek a commercial or non-commercial television operation, they are, just as other applicants, eligible to apply for licensed channels upon expiration of the license term of the stations involved.

ASSIGNMENT PRINCIPLES

The Basis of the Table of Assignments

63. In proposing the Table of Assignment set out in the Third Notice the Commission said that it had

> . . . endeavored to meet the two-fold objective set forth in Sections 1 and 307 (b) of the Communcations Act of 1934, to provide television service, as far as possible to all people of the United States and to provide a fair, efficient and equitable distribution of television broadcast stations to the several states and communities.

In attempting to carry out these objectives, the Commission set forth certain principles, in terms of priorities, underlying the Table of Assignments.[17] These principles were:

> Priority No. 1: To provide at least one television service to all parts of the United States.
>
> Priority No. 2: To provide each community with at least one television broadcast station.
>
> Priority No. 3: To provide a choice of at least two television services to all parts of the United States.
>
> Priority No. 4: To provide each community with at least two television broadcast stations.
>
> Priority No. 5: Any channels which remain unassigned under the foregoing priorities will be assigned to the various communities depending on the size of the population of each community, the geographical location of such community, and the number of television services available to such community from television stations located in other communities.

64. The Commission has reviewed the above described principles in the light of the comments and evidence received in this proceeding. We believe it desirable to state in somewhat comprehensive form the various factors underlying the establishment of the television Assignment Table.

65. At the outset it should be clearly understood that no single mechanical formula was utilized in the construction of the Table of Assignments. With the above priorities in mind it was necessary to recognize that geographic, economic, and population conditions vary from area to area and even within the boundary of a single state; the possibility of assigning channels, for example, may differ as between the northern and southern segments or between the eastern and western parts of the same state. It must be emphasized, therefore, that in establishing the Table of Assignments it is not possible to follow a mechanical and rigid application of the basic principles or what was termed the "priorities" in the Third Notice.

66. In establishing a Table of Assignments we were faced at the outset with the significant fact that we could not make all assignments in the Table within the VHF. The intermixture problem resulting from this situation is discussed below. Secondly, propagation characteeristics in the VHF are different in some respects from those in the UHF. Primary consideration was given to the fact that the VHF can effectively cover large areas, and VHF was used wherever possible in larger cities since such cities have broad areas of common interest. To achieve the benefits of VHF the 12 VHF channels were distributed as broadly as possible. However, conflicting interests had to be adjusted. Thus, the Commission concluded that in order to achieve an equitable distribution of facilities, metropolitan centers with their large aggregations of people should be assigned more VHF channels than communities comprising fewer people. At the same time—and this is a basic element in the Commission's assignment plan—the Commission did not believe that large cities should receive an undue share of the relatively scarce VHF channels; the Table we have adopted herein reflects a substantial distribution of VHF assignments among smaller communities and sparsely settled areas.

67. The Assignment Plan for UHF channels was coordinated with and made complementary to the VHF assignment plan. The Commission has always recognized that even with an extensive scattering of VHF assignments, the 12 channels available are not sufficient to meet the objective of providing television service to all the people. With the additional UHF channels, however, the Commission was able to formulate an assignment plan that have the potentiality of fulfilling the objective of Section 1 of the Communications Act. If all the VHF and UHF channels are utilized, there should be few, if any, people of the United States residing beyond the areas of television service. (See priorities 1 and 3.) Moreover, the Table has gone far in fulfilling the needs of individual communities to obtain local television outlets. It has provided at least one assignment to over 1250 communities. (See priority 2.) And it has attempted where possible to provide each community with at least two assignments. (See priority 4.)

68. Examination of the Table of Assignments makes clear, that in seeking to arrive at an equitable distribution of assignments throughout the country, the Commission has given consideration to population as one of the important criteria for distribution of assignments. Thus, it will be seen that for the most part, the following table reflects generally the number of assignments made to cities falling within the indicated population groupings:

1950 Population of Cities (Central City)	Number of Channels (Total VHF and UHF)
1,000,000 and above	6 to 10
250,000-1,000,000	4 to 6
50,000- 250,000	2 to 4
Under 50,000	1 or 2

There are of course variations from this pattern because of the many factors and circumstances that had to be considered in connection with making a final judgment as to the exact number of assignments that should be made for any particular community. For example, consideration was given to the advantages of VHF channels for obtaining wide coverage. Also it was considered more important for each of the several cities in an area to have at least one channel than for the largest of the cities to have the maximum number of channels indicated. And as a further example, cutting across the criterion of population size as a basis for the number of channels assigned to a particular city was the criterion of insuring an equitable distribution of facilities to the several states. Thus, the Commission has attempted to provide at least some VHF channels to all states even though in some cases an assignment might otherwise have been made to a large metropolitan center in an adjacent highly urbanized state.

69. The Commission also concluded that as a further assignment factor it should provide channels for non-commercial educational television service in 46 communities outside of metropolitan areas designated as "primarily educational centers." Certain of these communities were assigned one channel for non-commercial educational use, whereas they would otherwise not have been assigned any channel; others received an additional channel over and above the number of channels they would have otherwise received. Moreover, an attempt was made in so far as possible to assign a VHF channel to each of these educational centers for educational use. In all cases, however, the assignments have been made on the basis of the evidence in the record relating to the issues presented.

70. Allen B. DuMont Laboratories, Inc., was the only party in the proceedings to submit a national television assignment plan as an alternative to that contained in the Commission's Third Notice. In many respects the DuMont plan is similar to that of the Commission. With very few exceptions, both DuMont and the Commission make at least one television assignment to the same communities

[17] For a discussion of the legal power of the Commission to establish a Table of Assignments such as we are adopting here, see the Memorandum Opinion issued in this proceeding on July 13, 1951 (FCC 51-709).

Moreover, both DuMont and the Commission provide for intermixture of VHF and UHF channels in numerous communities. A detailed comparison of the proposed assignments community-by-community reveals the important fact that under both the DuMont and the Commission plan the great majority of communities would receive the identical number of VHF, UHF, or VHF and UHF assignments.

71. On the other hand, the DuMont assignment plan differs from that of the Commission in several important respects. The present section deals with these differences in the two plans in so far as they concern the basis for assignments. Elsewhere in the Report are discussed other differences between the DuMont plan and the Assignment Table adopted herein.

72. DuMont's major criticism of the Commission's proposed Table of Assignments was that it allegedly failed to provide adequately for the commercial television needs of large cities. In its comment of May 7, 1951. DuMont stated its agreement with Priority No. 1 but objected to Priorities Nos. 2. 3, and 4. DuMont alleged that these priorities were unrealistic in that they failed to take adequate account of the need and demand for services in large cities; that they failed to recognize present and long-range differences as between VHF and UHF; and that they were harmful to the future of networking. As an alternative to the Commission's priorities, DuMont recommended the following two priorities:

(a) Provide channels which will permit one service without regard to population.

(b) Encourage fair economic and equitable operation of television service through assignment to major metropolitan service areas of not less than four VHF channels when technically feasible under the proposed standards and with further distribution in allocation in relationship to population of communities in the service areas; provision being made for transfer of unused frequencies and adjustment by subsequent assignment of specific "flexibility channels."

73. A basic objective of the DuMont assignment plan is to provide major metropolitan centers with multiple VHF stations. In particular, DuMont seeks the assignment of four VHF channels to such communities—an objective directly related to DuMont's contention that this is necessary to promote network competition. By the assignment of four VHF channels in the largest markets, DuMont assumes that it would thereby obtain an outlet for its network operations in the most important centers. Contrariwise, DuMont fears that if only one or two VHF channels are assigned in these markets, it would be unable to obtain affiliates in such centers and would be in the position of dependence on UHF outlets. Because of the time required to develop UHF stations, DuMont contends that it would be placed at a severe competitive handicap in relation to other networks.

74. In its sworn statement of August 17, 1951, DuMont does not specifically repeat the recommendation in its original comments with respect to a revision of the Commission's priorities. Rather, DuMont attempts to show that both its own assignment plan and the FCC plan seek the same dual objective. DuMont describes this objective, as follows:

(1) To provide television service, as far as possible, to all people of the United States; and

(2) To provide the most services to the most people.

75. After allegedly showing that the two plans are alike in objective, DuMont attempts to prove that its plan is superior to that of the Commission in more nearly realizing the common objective. DuMont states that both plans meet DuMont Principle 1 in that they provide for service to all people of the United States. However, DuMont emphasizes that its own plan is superior in providing more VHF service to the larger centers, and that it is therefore more efficient in producing a highly competitive network situation than the FCC plan.

76. Columbia Broadcasting System, Inc., in its comment of May 1951, and later in its evidence presents views generally similar to those of DuMont in respect to the need for providing additional commercial VHF stations in key economic areas. It calls attention to the need for an additional assignment policy of insuring to the maximum extent possible a competitive commercial television service. However, CBS does not suggest any specific system of priorities but rather recommends that the Commission's priorities be applied in a "flexible" manner. Specifically, CBS urges that an additional commercial VHF channel should be assigned to Boston, Chicago, and San Francisco.

77. As set forth above, the Commission has concluded that larger cities should be assigned more VHF channels than communities comprising fewer people. However, the Commission cannot agree with the DuMont principle that an overriding and paramount objective of a national television assignment plan should be the assignment of four commercial VHF stations to as many of the major markets as possible. The Commission is of the view that healthy economic competition in the television field will exist within the framework of the Assignment Table adopted herein. Moreover, in the assignment plan adopted, the Commission has taken into account other significant factors. For example, the Commission in fulfilling what it considers the mandate of the Communications Act to provide an equitable distribution of facilities has attempted to provide at least some VHF channels to each of the states, although in some cases this was done where an assignment might otherwise have been made to a large metropolitan center in an adjacent state.

78. A second policy difference between the DuMont and Commission assignment plans lies in their contrasting views with respect to the importance of individual communities having television assignments. The DuMont view is that emphasis should be placed on locating the assignments, particularly VHF channels, so that the largest number of people will have television service but not necessarily that the largest number of communities should have one or more television stations of their own.[18] This view derives from DuMont's premise that the major cities with their large populations are certain to be able to support expensive television facilities, and that smaller communities which are within appropriate range of these cities should obtain service from stations in the large cities, rather than attempt to support stations with their own less substantial economic resources.

79. The Commission, on the other hand, believes that on the basis of the Communications Act it must recognize the importance of making it possible with any table of assignments for a large number of communities to obtain television assignments of their own. In the Commission's view as many communities as possible should have the opportunity of enjoying the advantage that derive from having local outlets that will be responsive to local needs. We believe with respect to the economic ability of the smaller communities to support television stations that it is not unreasonable to assume that enterprising individuals will come forward in such communities who will find the means of financing a television operation. The television art is relatively new and opportunity undoubtedly exists for initiating various methods of reducing television costs.

80. Another difference in assignment principle as between the DuMont and FCC plan lies in respect to the assignments made to the "primarily educational centers." DuMont opposes any reservation for non-commercial educational television stations and under the DuMont plan all of its channel assignments would be available for commercial use.[19] With reference to the educational centers, DuMont does not follow the Commission's assignment principle of providing in so far as possible a VHF channel to these communities, which would be reserved for use by non-commercial educational television stations. Thus in 10 of the educational centers to which the Commission has assigned a VHF channel DuMont proposes to assign a UHF channel.

81. The Commission finds that the principles of assignment which DuMont advocates are inadequate in that these principles do not recognize specifically the need to provide an equitable apportionment of channels among the separate states and communities and they do not provide adequately for the educational needs of the primarily educational centers.

82. With respect to the recommendation of CBS that the Commission apply its priorities in a flexible manner, the Commission, as previously indicated, formulated its Table of Assignments on the basis of taking into account numerous factors and objectives and did not apply the priorities in a rigid, mechanical way. With respect to the needs of larger communities for additional VHF assignments as set forth by CBS, the Commission believes that in its final Table of Assignments it has provided for these needs to the extent possible, consistent with its other objectives and criteria viewed in the light of the record. With respect specifically to the CBS request for additional commercial VHF assignments in Chicago, Boston, and San Francisco, these requests are dealt with in the section of the Report which discusses assignments to individual cities.

83. Whereas both DuMont and CBS contend that the Commission's priorities do not make adequate provision for the competitive and commercial aspects of television, the Joint Committee on Educational Television alleges that the Commission's priorities were deficient in not specifically recognizing non-commercial educational television. The Joint Committee urges that an additional priority should be established between Priority No. 3 and Priority No. 4 reading as follows:

To provide a non-commercial educational television service to all parts of the United States by the reservation of frequencies for this purpose.

84. It is not clear from the above statement as to whether or not the Joint Committee actually is proposing an additional assignment principle. An assignment principle refers to: (a) the number of television channels that individual communities should receive, and (b) whether the channels should be in the VHF or the UHF band. The Commission has reserved channels for non-commercial educational television use on an extensive basis throughout the United States, but not as a principle of assignment. That is to say, the Commission decided first that a particular community should have three channels on the basis of various criteria, and only subsequently did it decide that one channel should be reserved for educational use. As discussed previously, in one main exception the Commission treated the educational need as a principle of assignment: in the special case of the 46 "primarily educational centers." In this case, the fact of being an educational center influenced the Commission's decision as to the total assignments to these communities, and also influenced its determination as between the assignment of VHF and UHF channels. Moreover, upon request in this proceeding and a proper showing, the Commission has added an assignment as an educational reservation in various communities even though these assignments had not been made to the community in the Third Notice. At any event, in view of our decision discussed elsewhere in this Report to avoid any reference to priorities as such in the Commission's Rules, no further action is necessary with respect to the request of JCET for an additional priority.

Prediction of Service Areas and Interference

85. In the Third Notice the Com-

[18] While DuMont as a matter of general principle takes this position in its own assignment plan, DuMont makes at least one assignment to practically every community listed in the Commission's Table of Assignments contained in the Third Notice.

[19] Contrariwise, the number of commercial VHF channels in the Commission plan is reduced because of the Commission's policy of reserving one VHF channel for non-commercial educational television use in every community having at least three VHF assignments, unless all of these assignments had been previously licensed. While this principle does not determine in which community an assignment should be made, it is an important factor to be considered in any comparison of the number of commercial VHF channels in the DuMont and the FCC Assignment Tables.

mission stated with respect to prediction of service areas and interference:

> Methods for describing service areas and interference are set forth in Appendix B. The methods therein described include the propagation of radio waves through the lower atmosphere only. These propagation charts are based on an extensive number of measurements made at various locations over a long period of time. It is recognized that these charts may have to be revised from time to time as more measurements are made, and interested persons are encouraged to make as many measurements as possible and submit them to the Commission. The Commission is satisfied that on the basis of the data presently available to it the data underlying the propagation charts are sufficient to afford an adequate statistical basis for describing field intensities under average conditions, but it is expected that there may be substantial variations in individual areas.
>
> *Long distance skywave interference.* It is also realized that propagation to distances of the order of 500 to 1,500 miles via the sporadic E layer and to distances beyond via the F2 layer may occur in certain of the channels. However, since such interference may occur over extremely large distances, it is not possible to protect stations against such interference unless operation on such channels is limited to one or at the best a few stations. In order to provide stations for the various communities, the Commission has determined that the overall public interest is better served by not protecting television broadcast stations against this type of interference.

86. No objections were filed with respect to the proposal concerning long distance skywave interference. Accordingly, the decision of the Commission not to protect television broadcast stations against this type of interference is made final. In this connection it should be pointed out that in setting engineering standards, we have considered all known propagation effects. If in the future, any person is of the opinion that the Commission's Rules do not properly reflect any given types of propagation effect, consideration will be given in an appropriate rule making proceeding only to amendment of the Rules.

87. Several comments have been received which, in general, state that the propagation curves in Appendix B of the Third Notice are not supported by the record when used for UHF propagation. These comments are especially directed to the use of these curves in rough terrain. Comments of this nature have been received from the Greylock Broadcasting Company, Pittsfield, Mass.; Fort Industry Company; Enterprise Publishing Company, Brockton, Mass.; WTAG, Inc., Worcester, Mass.; and James C. McNary.

88. These comments must be viewed in light of the nature of the propagation curves used in the prediction of service areas and interference. The Ad Hoc Committee Report establishes that the received field intensities of television signals vary so greatly from location to location, and with time, that any prediction of service from these average curves for a specific station is expected to deviate appreciably from the actual service. In addition, it is clear that a very large number of measurements from both desired and interfering stations, many of which will not be in existence for several years, would be necessary to make an accurate prediction of service for any specific station. However, the Ad Hoc Report indicates that the overall estimate of service for a large number of stations will be fairly good. In view of the foregoing, it is apparent that the Assignment Table must be made on a large area basis for which the overall estimated service is reasonably accurate. The assignment Rules and standards, however, cannot be construed as guarantees of service but rather as yardsticks based upon the best available data. As the quantity of available data increases, the assignment Rules and standards may be revised at a later date in the light of the scientific findings.

89. The Commission, after review of the whole record and the comments filed in this proceeding, has decided that the 63 mc. F (50,50) curves present a more accurate picture of expected service in the UHF than do the 195 mc. curves. The UHF data in the record indicates that for 50% of the locations the field strengths are approximately 4 db below the 195 mc. F (50,50) curves for distances in the order of 10-20 miles for which data are available. The 63 mc. curves are approximately 4 db below the 195 mc. curves at distances of this order and appear to generally provide a reasonable match with the data for UHF within service distances (as contrasted with interfering distances). In addition, the Commission has reconsidered the curves with respect to the prediction of interference in the UHF and based on T.R.R. Report No. 2.4.10 (Exhibit 565), in the record in this proceedings, a new family of curves for the prediction of interfering UHF signals has been prepared and has been substituted for the F (50,10) curve for Channels 14-83 proposed in the Third Notice.

90. With these changes in mind the Commission is confident that the curves it is establishing are of sufficient accuracy to achieve the purposes of its assignment plan. The use of such curves is indispensable to the inauguration of a nationwide television service. If we were to await more extensive data before establishing the Assignment Table, it would be necessary to withhold the inauguration of a nationwide service which will operate on both the UHF and VHF. The objections to the use of the 195 mc. curves for UHF in rough terrain are in part mitigated by the use of the 63 mc. curves for prediction of service ranges. It is nevertheless true that the same curves are used for smooth as for rough terrain. However, no one either in the record or the comments filed pursuant to the Third Notice has proposed a system of prediction of coverage which while recognizing the differences between rough and smooth terrain meets the criterion of reasonable simplicity or in lieu thereof is reasonably accurate in the light of available scientific data. Actually, no one has offered adequate data upon which curves may be adopted which would recognize the differences between smooth and rough terrain or has established criteria for determining various degrees of terrain roughness. As a result no further changes in the curves adopted are justified on the basis of the record. In the future, when measurements are made which will add to the store knowledge in the field of propagation, these will be considered in appropriate rule making proceedings looking toward the amendment of existing curves. In the absence of such data, objections to the UHF propagation curves must be rejected.[20]

91. For purposes of establishing a Table of Assignments and developing Rules and standards for the television broadcast service, the service areas are described in terms of iso-service contours based upon the proposed propagation charts. It should be stressed again that the service and interference computed by the use of these charts are not expected to prevail for any specific station but rather describe the service and interference which would prevail if the stations involved were all typical ones producing the average field intensities described by the charts. In other words, the proposed methods for describing service areas and interference are only assignment tools which are expected to give a fairly good service description on a large area basis but not necessarily on an individual station basis.

92. It has been found that radio signals in the frequency range pertinent to the television allocation vary both with time and location in a statistically normal distribution. In order to adequately describe these variable field intensities, the Commission has adopted the statistical approach advocated by the Ad Hoc Committee. Thus, if a T per cent field intensity is defined as that level of field intensity exceeded for T per cent of the time, then F(L,T) is the T per cent field intensity exceeded at L per cent of the locations. Stated in another way, F (L,T) is the field intensity exceeded for at least T per cent of the time at the best L per cent of receiving locations. In establishing the Table of Assignments and in developing the Rules and standards for the television broadcast service, it has been found necessary to use primarily the F(50,50) and F(50,10) values of field intensity and the charts indicating the variation of field intensity with the percentage of receiver locations. However, we have considered in this connection the efficiency studies developed by the Ad Hoc Committee utilizing the concept of integrating the service available at all receiver locations.

93. The above charts are based upon the results of the Ad Hoc Committee Report with two exceptions. First, the field intensity versus distance curves were extrapolated for transmitting antenna heights of more than 2000 feet. Secondly, the Ad Hoc Committee did not study UHF propagation.

94. The concept of iso-service contours has been introduced for the purpose of describing service. It is recognized that there exists no sharp line of demarcation between service and interference but that the service available may be more satisfactory or less satisfactory in varying degrees. However, for the purpose of obtaining practical comparisons of the service to be expected under the assignment plan it has been found desirable in this proceeding to set up a standard criterion of service, based upon a standard instantaneous acceptance ratio of desired to undesired signals being exceeded for 90 per cent of the time at any given receiver location, as outlined in Volume II of the Ad Hoc Committee Report. The iso-service contour is defined as that contour along which every location has the same probability of exceeding the standard criterion of service, described above. The farther away a location is from the transmitter, the smaller is the probability that the received service will exceed the standard criterion. The grades of service are determined by selecting particular location probabilities, namely 70% and 50% for Grades A and B service respectively.

95. In determining service and interference, the receiving antenna is assumed to be non-directional. This assumption has been recommended by the Ad Hoc Committee. It is believed that the receiving antenna directivity gain should be used as a safety factor to permit adjustment of the antenna to minimize multipath distortion and local oscillator radiation, to permit a compromise orientation for the reception on the same antenna from several desired stations in different directions, and to minimize the effects of multiple interference.

96. In view of the foregoing, the Commission's proposal as modified herein, with respect to prediction of service areas and interference has been followed in this proceeding and appropriate portions thereof have been incorporated in the Commission's Rules and standards. The F(50, 10) curves are attached hereto as Appendix B.

Grades of Service

97. The Third Notice provided C. Grades of service.[5] In it

[20] It is to be noted that the Commission's decision with respect to the Enterprise, Greylock and WTAG counter-proposals with respect to the cities of Brockton, Pittsfield and Worcester does not rest on the nature of the UHF propagation curves.

[5] The Commission proposes the use of iso-service contours which express service in terms of the ratio between desired and undesired signal in decibels, or the minimum required signal levels in decibels above one microvolt per meter. This has been done in order to facilitate computation of service and interference field strength. Likewise, the same terms may be carried over to the output of the transmitter, transmission line loss and antenna gain. This has the advantage of using the same unit throughout the service whether in the transmitting equipment or in the field and has the additional advantage that a decibel of power added at the transmitter results in a decibel of increased field strength. In order to place these matters on a related basis, the decibels with respect to transmitter power and antenna gain as well as field strength must be expressed as decibels with reference to some given level. Field strength is expressed either in decibels above an undesired signal or decibels above a reference level which has been chosen as one microvolt per meter. A convenient reference level of transmitter power is 1 kilowat. The propagation charts attached to Appendix B and identified as "Appendix V, figures 1-4" are based upon the radiation in the equatorial plane of a half wave dipole antenna having an effective radiated power of one kilowat. Antenna gain is expressed as the ratio in db of the maximum radiation from the antenna to the radiation in the equatorial plane of a half wave dipole with equal power input.

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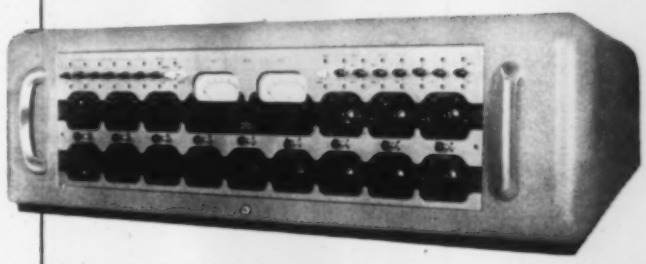

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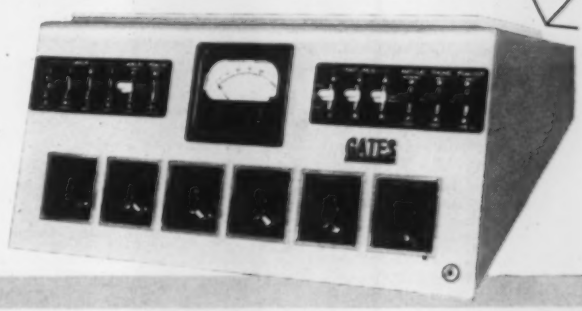

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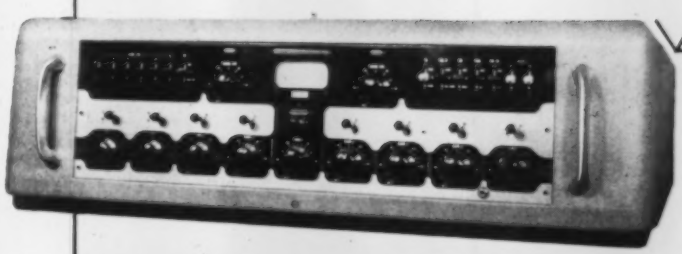

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Notice of Further Proposed Rule Making issued on July 11, 1949, the Commission proposed to classify television broadcast service into three grades of service. In the Commission's opinion, there is no need for more than two grades of service. Grade A service is so specified that a quality acceptable to the median observer is expected to be available for at least 90 per cent of the time at the best 70 per cent of receiver locations at the outer limits of this service. In the case of Grade B service the figures are 90 per cent of the time and 50 per cent of the locations.[6] The field strengths and interference ratios are as follows:

1. Required median field strengths in db above 1 uv/m:

Grade of service	Channels 2-6	Channels 7-13	Channels 14-83
A	68 db	71 db	74 db
B	47 db	56 db	64 db

2. Permissible co-channel ratios in db of median desired field strength to 10 per cent undesired field strength:

	Channels 2-13		Channels 14-83	
Grade of Service	Non-Offset	Offset	Non-Offset	Offset
A	51 db	34 db	53 db	36 db
B	45 db	28 db	45 db	28 db

3. Permissible adjacent channel ratios in db of median desired and undesired field strengths:

Grade of Service	Channels 2-83
A	0 db
B	0 db

98. No objections were filed to the proposal described above with the exception of comments concerning adjacent channel interference ratios which are treated elsewhere in this Report. Accordingly, the proposal in the Third Notice has been followed in this proceeding and appropriate portions thereof have been incorporated in the Commission's Rules and Standards. In view of our decision herein with respect to station separations, powers and antenna heights, there is no need to include in our Rules and standards co-channel and adjacent channel interference ratios.

99. The Third Notice provided that:

> Transmitter locations shall be so chosen that the following median field intensities as calculated in accordance with the methods and procedures described in Appendix B are provided over the entire principal city to be served:

Channels 2-6	Channels 7-13	Channels 14-83
74 db	77 db	80 db

100. No one has objected to this proposal with respect to median field intensities and accordingly it is being finalized.

101. It should be noted that the values selected for these grades of service assume a number of conditions with respect to a typical home receiver installation such as the sensitivity of the receiver, the type of antenna, the installation of the antenna, and the transmission line used. In VHF, considerable information concerning a typical home installation is available as a result of actual experience; in UHF a typical installation had to be predicated to a large extent on the basis of technical feasibility. Thus, the extent to which the grades of service for the UHF, herein adopted are actually realized in practice will depend on the ability of the industry economically to produce and install high performance receiving equipment as well as upon the propagation characteristics of these frequencies.

102. DuMont and Radio Kentucky, Inc., Louisville, Kentucky, have both recommended that the Commission impose requirements with respect to the joint use of antennas to make coverage more equal, reduce construction costs and aid the public in the installation and use of receiving antennas. In this connection, Section 3.639 of the Commission's present rules provides:

> Use of common antenna site.—No television license or renewal of a television license will be granted to any person who owns, leases, or controls a particular site which is peculiarly suitable for television broadcasting in a particular area and (a) which is not available for use by other television licensees, and (b) no other comparable site is available in the area; and (c) where the exclusive use of such site by the applicant or licensee would unduly limit the number of television stations that can be authorized in a particular area or would unduly restrict competition among television stations.

While we encourage licensees to use common antennas where possible, we believe that we should not impose such a requirement without further exploration of the problems which might arise from such a rule. We have, however, retained the provisions of Section 3.639 in the Rules adopted herein.

Station Separations

103. The Commission in seeking to establish a nationwide television assignment plan which will provide service to the people of the United States for years to come is basing the Assignment Table in large part on a system of minimum station separations. These station separations, together with the station powers and antenna heights permitted by the Rules, will establish the nature and extent of the protection from interference to be accorded to television stations. The use of this system of station separations, we believe, will more easily and more likely bring about a truly efficient and equitable distribution of television service than would a system based upon "protected contours."

The Measurement of Station Separations[21]

104. We are dealing in this Report with two types of separations or mileage spacing requirements. There are in the first place *assignment spacing requirements* which we are following herein and which will be followed in future rule making proceedings dealing with additions or amendments to the Table of Assignments. These separations are to be distinguished from *facilities spacing requirements* that must be complied with in determining spacings between stations in licensing proceedings involving individual applications for facilities. The Third Notice implicitly recognized the difference between these two types of separations by referring to assignment spacing requirements as city-to-city spacings and by referring to facilities spacing requirements as transmitter-to-transmitter spacings.

105. A number of parties[22] have filed comments pursuant to the Third Notice taking issue with the requirement that minimum co-channel separations be determined exclusively on a city-to-city basis. These parties state that the evidence in the record of the hearing, supplied by Edward Allen, a Commission witness, pertaining to the determination of interference, distance to service contours, and associated studies related to the locations of the transmitting antennas irrespective of the distance between cites. These parties further maintain that the determination of interference, distance to contours, and grade of service are functions of the transmitting antennas together with the propagation characteristics of the frequencies concerned, and power and effective antenna height. Accordingly, they request that the Third Notice be modified so that minimum co-channel separations be stated either on a transmitter-to-transmitter basis or that the alternative of transmitter-to-transmitter or city-to-city spacings be permitted.

106. In providing that assignment spacings were to be measured from city-to-city, the Third Notice did not expressly specify what reference point in a city should be chosen in measuring the city-to-city separation. However, where a transmitter is in existence by reason of a Commission authorization, that transmitter site is obviously the appropriate reference point. Accordingly, insofar as the comments described above constitute a request that, in measuring assignment spacings an authorized television transmitter shall be used as one of the two necessary reference points, they are granted, and we have in this proceeding measured[23] assignment spacings from authorized transmitter sites where such sites were available. The location of the site is derived from the co-ordinates of the transmitter as indicated on the official Commission instrument of authorization. Where television transmitters are authorized in both cities, each site should be used as a point of reference, and in such case the assignment spacing is measured transmitter-to-transmitter.

107. The Third Notice did not state specifically how an assignment spacing should be measured where no authorized transmitter site is available as a reference point. We have decided that where an authorized transmitter site is available for use as a reference point in one city but not in the other, the latter is the point described by the city co-ordinates as set forth in the publication of the United States Department of Commerce entitled "Air Line Distances Between Cities in the United States,"[24] or if this publication does not specify such co-ordinates, the reference point used is the point described by the co-ordinates of the main post office of the city involved. Where no authorized transmitter sites are available for use as a reference point in both cities, the mileage distance between the two cities listed in the publication described above has been used where available. In the absence of such information, the reference points are determined by ascertaining the city co-ordinates as set forth in the publication listed above and where the city co-ordinates are not listed, by ascertaining the co-ordinates of the main post office in the city involved.

108. The measurement of facilities separations in licensing proceedings is simplified by reason of the fact that in each case one reference point is established by the applicant by his selection of a proposed transmitter site. The other reference point is determined by ascertaining (1) the co-ordinates of an authorized transmitter site in the other city or (2) where such a transmitter site is not available the city co-ordinates as set forth in the publication of the United States Department of Commerce entitled "Air Line Distances Between Cities in the United States" or if said publication does not specify such co-ordinates the co-ordinates of the main post office of the other city involved. In addition where there are pending applications in the other city, which, if granted, would have to be considered in determining facilities separations, the co-ordinates of the transmitter sites proposed in such applications must be used to determine whether minimum facilities spacing between the two proposals have been met.

The Minimum Co-Channel Assignment Spacings

109. In the Third Notice, the Commission said with respect to co-channel assignment spacings:

> The Table of Assignments contained in the Commission's Notice of Further Proposed Rule Making, issued July 11, 1949, had as its objective co-channel separation of 220 miles in the VHF band and 200 miles in the

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[6] For the specialized case that exists in the case of adjacent channel interference, see par. II E (2) below.

[21] Station separations include co-channel separations, adjacent channel separations, and those separations provided for herein to protect against interference caused by oscillator radiation, I. F. beat, intermodulation and to protect against image interference.

[22] Southern Minnesota Supply Co., Mankato, Minn.; Pennsylvania Broadcasting Co., Philadelphia, Pa.; The Brockway Co., Watertown, N. Y.; Hampton Roads Broadcasting Corp., Norfolk, Va.; Loyola University of The South, New Orleans, La.; The Gazette Company, Cedar Rapids, Iowa; Telegraph Herald, Dubuque, Iowa; Kingsport Broadcasting Co., Kingsport, Tenn.; Hartford Times, Inc., Hartford, Conn.; Buffalo Courier Express, Inc., Buffalo, N. Y., Bay Broadcasting Co., Bay City, Mich.; WJR, The Goodwill Station, Inc., Detroit, Mich.; Wm. H. Block Company, Indianapolis, Ind.; The Travelers Broadcasting Service Corp., Hartford, Conn.; McClatchy Broadcasting Co., Sacramento and Fresno, Calif.; WIBC, Inc., Indianapolis, Ind.; Peoria Broadcasting Co., Peoria, Ill.; Independent Broadcasting Company, Des Moines, Iowa, and Jacksonville Broadcasting Co., Jacksonville, Fla., among others.

[23] The manner of measurement of mileage spacings between two reference points is set out in the Rules adopted herein.

[24] The Third Notice provided that in determining separations between cities for the purpose of application of the 15 mile rule (see footnote 8 above) "the city mileage separations set forth in the publication of the United States Department of Commerce entitled 'Air Line Distances' shall be utilized. Where cities are not listed in the above publication, separations shall be computed on the basis of the distance between the main post office in the respective cities."

UHF band. At the hearing on the general issues, testimony was offered that these separations could be reduced considerably by utilizing offset carrier operation. Evidence was also offered that more television service could be made available to the country if the separation objective were reduced to 150 miles for VHF channels.

The Commission has carefully considered the above evidence and has concluded that some reduction in co-channel separation is possible because of the improvements which result from offset carrier operation. It is not deemed advisable to effectuate a reduction to 150 mile VHF separation as suggested at the hearing. In the first place, the evidence upon which the 150 mile separation is based is the theoretical computations of what coverage can be achieved. On the basis of the evidence in the record, it is clear that considerations of terrain and other propagation factors will materially affect many of the theoretical computations. In the second place, much of the propagation data—although the best available—upon which the Commission relies is necessarily quite meager. Postponing a decision in these proceedings would not materially aid this problem since it has been the Commission's experience that substantial amounts of propagation data do not become available until stations are authorized on a regular basis. Hence, the Commission is faced with the practical problem that if it postpones assigning stations until sufficient propagation data are available, such data may never become available, while on the other hand if stations are assigned before sufficient propagation data are assembled, more interference may result in actual operation than was anticipated. In the Commission's view, the best method of handling this problem is to assign stations as soon as a reasonably sufficient amount of data is accumulated, but in doing so assignments should not be made on the barest minimum separation which exact calculations would indicate. Instead, a safety factor should be included. In this way, if as a result of actual experience more interference results than was indicated by the earlier calculations, the safety factor will prevent extensive damage to overall service. If actual experience shows that the amount of interference is approximately that predicted by the calculations, then the rules and standards can be amended to reflect the new data. In the Commission's experience, it is much easier as a practical matter to reduce station separations which are somewhat larger than were originally thought to be necessary than it is to increase separations which are smaller than were originally thought to be necessary.

110. In determining minimum co-channel separations we must consider a number of factors. The geographical distribution of the people and cities of the United States does not lend itself to a simple rule for the spacing of stations. The northeastern portion of the United States is generally characterized by higher population density and closer spacing of cities than the other portions of the country. See Appendix A.

111. Recognition must also be given to the fact that the mileages set for co-channel spacings determine the size of the interference-free service area of nearby co-channel stations. It is important to note that we are referring here not to Grade A service but to the more extensive Grade B service. As spacings in the order of 140-250 miles are reduced by 10 miles the interference free service area is reduced by 2-3 miles in the direction in which stations face each other. Accordingly, reductions in Grade B service resulting from reduced separations deprive the rural areas and the less sparsely settled areas of television service. To the extent we do this in the VHF, we lose one of the benefits of that portion of the spectrum, the wide area coverage possible.

112. We have also considered the import of minimum spacings on the policy we have adopted herein with respect to the use of greater heights and higher powers. As greater antenna heights and higher powers are used, the greater is the need for wider separations; with smaller separations, in the direction of the co-channel station, the potential gain from greater heights and higher powers would be lost. We do not wish to negate the policy of trying to obtain wide coverage by the use of high antenna heights; neither do we wish to create excessive interference by permitting operation with high power at small spacings.

113. Finally we have given consideration to the need for a safety factor in view of the incomplete nature of available propagation data. Where the pros and cons hang in even balance we deem it highly desirable if not imperative to tip the scales in favor of wider separations.

114. The Commission in the Third Notice provided the following minimum co-channel assignment spacings between cities:

VHF — 180 miles
UHF — 165 miles

Actually, however, it was not intended that all requests for additional assignments should be granted solely because they met the minima provided for in the Third Notice. The Third Notice stated:

> In each case, the above figures are minimum separations. Greater separations are utilized in the sparsely settled areas of the country in order to secure a maximum amount of service. In addition, greater separations are also utilized in Gulf Coast areas and in other areas where high levels of tropospheric propagation may be expected. *This should be kept in mind by persons desiring to suggest changes in the Table of Assignments.* (Emphasis added.)

115. Moreover, examination of the Table of Assignments proposed in the Third Notice makes it clear that the 180 mile VHF co-channel separation and the 165 mile UHF co-channel separation were not intended to be the minimum assignment spacing throughout the country. These minimum spacings were intended to be used and were used only in those portions of the country where narrower spacings are appropriate, particularly in the northeastern part of the United States. Upon review of the whole record we adhere to the concept that in the less densely settled areas of the country wide separations must be maintained. The minimum VHF co-channel spacing utilized in the Third Notice in such areas of the country was 190 miles. We adopt this spacing as the appropriate minimum VHF spacing in areas which have a relatively lower population density or where large cities are more widely separated. See Appendix A. For if we were to permit stations at close separations in such areas, we would deprive persons residing in the interference areas between such stations of television service since there generally do not exist other cities of sufficient magnitude in this interference area capable of supporting stations on other channels which could serve the area.

116. A different situation, however, exists where there is a higher density of population and concentration of cities. Because of the concentration of cities, the provision for lower minimum spacings in such an area will not have the tendency of depriving residents of the area of television service, since there would be an overlapping of service contours of stations on different channels located in the interference areas.

117. Analysis of population density and distribution of cities establishes the existence of one large contiguous area where there is a substantially higher density of population and concentration of cities compared to all other contiguous areas of comparable size. See Appendix A. We believe the record in the general portion of the hearing supports the conclusion that lower separations in this area are warranted.

118. We have called this area Zone I. It consists of that portion of the United States located within the confines of the following lines drawn on the United States Albers Equal Area Projection Map, (based on standard parallels 29½° and 45½° North American datum): Beginning at the most easterly point on the state boundary line between North Carolina and Virginia; thence in a straight line to a point at the junction of the Ohio, Kentucky, West Virginia State boundary lines, thence westerly along the southern boundary lines of the States of Ohio, Indiana and Illinois to a point at the junction of the Illinois, Kentucky and Missouri State boundary lines; thence northerly along the west boundary line of the State of Illinois to a point at the junction of the Illinois, Iowa and Wisconsin State boundary lines; thence easterly along the northern state boundary lines of Illinois to the 90th meridian; thence north along this meridian to the 43.5° parallel; thence east along this parallel to the 71st meridian; thence in a straight line to the intersection of the 69th meridian and the 45th parallel; thence east along the 45th parallel to the Atlantic Ocean. When any of the above lines pass through a city the city shall be considered to be located in Zone I. A map of Zone I is included in the Rules adopted herein.

119. In establishing the boundaries of Zone I we have included within the Zone portions of some states that, as a whole, have relatively low population densities and relatively few large cities. The portions we have included, are, however, relatively more populous and have a greater number of large cities than the other portions of the same states and they are all contiguous to the general area with a higher density of population and concentrated cities. For these reasons we believe their inclusion in Zone I is warranted.

120. Upon consideration of the whole record, we have determined that the minimum co-channel assignment spacing in Zone I shall be 170 miles in the VHF and 155 miles in the UHF.[25] This constitutes a reduction of 10 miles in the minimum assignment separation proposed in the Third Notice, but is the same as the minimum facilities separations provided for in the Third Notice. We find no basis for going below the 170 and 155 mile figures proposed as the minima in the Third Notice.

121. As we have pointed out in the Third Notice, in certain areas of the country, particularly the Gulf Coast area, high levels of tropospheric propagation may be expected. In such areas greater separations are necessary to compensate for the reduction in service areas that is caused by the interference resulting from the high level of tropospheric propagation. We have carefully re-examined the record and the comments that have been filed pursuant to the Third Notice and we have determined that only the Gulf Coast area should, by rule, be treated differently from other areas which may be affected by a high level of tropospheric propagation. In reaching this conclusion we are aware that wide separations will have to be maintained in other areas as well to protect against the effects of high levels of tropospheric propagation. We believe, however, that these situations can be considered on a case-to-case basis, and we have attempted to take care of this problem on such a basis in establishing the Table of Assignments in this proceeding.

122. We have designated the Gulf Coast area as Zone III. Zone III consists of that portion of the United States located south of a line, drawn on the United States Albers Equal Area Projection Map, (based on standard parallels 29½° and 45½° North American datum), beginning at a point on the east coast of Georgia and the 31st parallel and ending at the United States-Mexico border, consisting of arcs drawn with a 150 mile radius from the following specified points:

	North Latitude			West Longitude		
a)	29°	40′		83°	24′	
b)	30°	07′		84°	12′	
c)	30°	31′		86°	30′	
d)	30°	48′		87°	58′	30″
e)	30°	23′		90°	12′	
f)	30°	04′	30″	93°	19′	
g)	29°	46′		95°	05′	
h)	28°	43′		96°	39′	30″
i)	27°	52′	30″	97°	32′	

When any of the above lines pass through a city, the city shall be

[25] We recognize that a few existing operations do not comply with the minimum separations set forth above. It has not been possible to remove these cases without unwarranted dislocation.

considered to be located in Zone II. A map of Zone III is included in the Rules adopted herein.

123. All of the United States (including the Territories) not included in Zones I and III is designated as Zone II. In measuring separations between cities in different Zones, the lower separation applicable will govern.

124. The area designated as Zone II is more sparsely settled than the area designated Zone I and has a lower concentration of cities than does Zone I. See Appendix A. As shown in Appendix A, the population density per square mile in Zone I is 222.1 people per square mile; in Zone II the population density is 27.4 per square mile. For the reasons set out above, we believe the minimum VHF co-channel assignment separation of 190 miles maintained in this area in the Table proposed in the Third Notice, should be adhered to without change. In the case of the UHF, the minimum co-channel separation in Zone II, maintaining the relationship used in Zone I, shall be 175 miles. There are very few UHF assignments proposed in the Third Notice in violation of this minimum; these assignments have, however, been deleted from the Table adopted herein.

125. There remains for consideration the minimum co-channel separations to be maintained in Zone III, the Gulf Coast area. This area would be on the basis of density of population and concentration of cities fall within Zone II. The population density per square mile in Zone III is 47.8 people per square mile. See Appendix A. On the basis of the record, it appears necessary, however, to add a factor of about 33 miles spacing between co-channel stations to obtain the same service area as would exist in Zone II. We believe it to be reasonable in light of the foregoing to add 30 miles in the Gulf Coast area to the 190 mile minimum VHF co-channel assignment spacing provided in Zone II. This will substantially equalize the service contours of stations in the Gulf area with stations in Zone II. On this basis the minimum assignment spacing in Zone III will be 220 miles in the VHF band and 205 miles in the UHF. Several VHF assignments in Zone III proposed in the Third Notice involved spacings below this minimum. However, as set forth above, it was clearly contemplated in the Third Notice and the Commission so indicated that spacings in the Gulf Coast area would have to be much wider than spacings in other portions of the country [26]. Accordingly, necessary changes have been made in the Table to insure that all assignments meet the minimum required herein.

126. In establishing Zone III we are taking into account the fact that we do not have sufficient data at this time to determine exactly at what point the effects of the high level of propagation in the Gulf need no longer be considered in establishing minimum assignment spacings. We believe, however, that the figure we have chosen provides an adequate margin of safety and yet does not prevent assignments that could appropriately be made at this time.

127. DuMont Laboratories, Inc. has submitted an alternative nationwide assignment plan which it claims is superior to that of the Commission. DuMont makes this claim on the grounds that its assignment plan allegedly makes a more efficient use of the available television spectrum, especially the VHF band. DuMont points out that it has made more assignments on each VHF channel than the Commission and that it has provided more communities with VHF multiple service. At the same time DuMont proposes to assign at least one channel to practically every community listed in the Commission's Table of Assignments. In substantiation of its claim that its plan would provide more persons with more service, DuMont had a population count made of the number of persons living within 50 miles of television service centers. It defined a "television service center" as a community to which more than one television channel had been assigned under either the Commission or the DuMont assignment plans. For example, DuMont states that under the proposed FCC plan 98 television centers have been tentatively assigned four or more VHF and UHF channels and a population of 95,115,203 live within 50 miles of these centers, whereas under the DuMont plan 149 centers would have four or more channels and a population of 113,814,387 live within 50 miles of these centers.

128. DuMont contends that it achieved this greater efficiency "within the FCC framework of engineering standards." As a matter of fact, however, there is a highly significant difference between the two plans with respect to the minimum co-channel assignment separations employed and this difference is necessarily reflected in the total number of assignments under the two plans. In order to increase the number of VHF assignments in large cities, DuMont would make many assignments below the minimum separations employed in the Table of Assignments proposed in the Commission's Third Notice and as adopted in this Report. For example, in the area comprising Zone II, the Commission's proposed Table and final Table have no assignment separations below 190 miles. By contrast DuMont proposes 79 spacings below this minimum. These would be distributed as follows: 6 below 170 miles; 21 between 170 and 180 miles; and 52 between 180 and 190 miles. In the area defined as Zone III, the Commission had proposed 9 spacings below 220 miles (minimum established herein), but in the Table adopted herein all VHF spacings below 220 miles have been deleted. DuMont, however, proposes 30 assignments below this minimum. Two separations would fall below 180 miles, 18 between 180 and 200 miles, and 10 between 200 and 220 miles.

129. By reducing the spacings below the minimum at numerous points, the DuMont plan achieves a greater number of VHF assignments than does the FCC table. It is apparent, however, that DuMont's alleged superior assignment efficiency in fact results from utilizing station separation standards at variance with those of the Commission. For the reasons detailed previously, the Commission does not believe it is in the public interest to utilize such lower assignment separations.

130. Furthermore, the DuMont Assignment Table is inconsistent, in part, with the assignments that have been made along the Mexican and Canadian borders. This aspect of the DuMont assignment plan is discussed elsewhere in this Report. In addition, the DuMont proposal for UHF assignments does not follow a basic principle provided for in this Report and followed in the Commission's Table, namely, that UHF stations separated by less than 6 channels should be separated by at least 20 miles. This aspect of the DuMont assignment plan is also discussed in detail elsewhere in this report.

131. The Commission has already examined and rejected certain of the underlying principles of the DuMont plan.[27] We must, for the reasons indicated above, similarly reject the proposed DuMont Table of Assignments.

132. DuMont requested an opportunity to make an oral presentation in this proceeding. This request was based on the view that the Commission would not adequately understand the DuMont nationwide assignment plan. We have very carefully considered the DuMont proposal. The Commission recognizes the contributions made by DuMont to these proceedings. We do not believe that an oral presentation is necessary for the Commission to satisfactorily consider and dispose of the issues raised by DuMont. In our view the detailed written evidence submitted by DuMont adequately presents the facts with respect to the nature of DuMont's proposal and has enabled us fully to consider the merits of its proposal. The DuMont request for an oral presentation is, therefore, herewith denied.

133. A request has been made[28] that the Commission permit assignments of co-channel stations at less than the minimum spacings where advantage can be taken of mountain ranges to form a natural protection between stations. The parties referred to testimony on this point presented in the record by Messrs. Goldsmith, Poole, Gillett, Inglis, O'Brien and Harmon. While there is some evidence that intervening mountain ranges may normally reduce television signals, the propagation data available at this time is insufficient to determine the extent to which there may be significant deviations from the normal pattern in such situations. The Commission is, therefore, denying in this proceeding the requests for co-channel separations lower than the minimum between stations separated by mountain ranges. [29]

134. Some of the parties [30] have requested that co-channel assignment spacings be calculated on the basis of proposed transmitter sites as well as on the basis of existing transmitter sites. Such a request confuses assignment spacings with facilities spacings. The purpose of assignment spacings is to determine what channels shall be assigned to individual communities for use by applicants who may seek authorizations for stations in such communities after an assignment has been established. After an assignment has been made it must be capable of being used by any applicant who may succeed in the licensing proceeding. To use the specific transmitter site proposed by an individual petitioner in a rule making proceeding as a reference point in calculating assignment spacings would be to use a site that might in fact never be available to the successful applicant in the licensing proceeding.

135. Further, to permit parties to use specific proposed sites or possible transmitter sites in order to establish that they meet minimum assignment spacing requirements would in effect reduce the minimum assignment spacing requirements. Several parties have, however, attempted to demonstrate that proposed co-channel assignments meet the minimum requirements by offering evidence that they can select a transmitter site that will meet the minimum assignment separation requirements even though the distance between the proper reference point in the community of the proposed assignment and the other city involved is less than the minimum. We cannot permit separations to be reduced by allowing proponents of new assignments to demonstrate in rule making proceedings that they can meet the minimum assignment spacing requirements only by being able to erect a transmitter at a specific site. The manner in which the assignment spacings are measured is important in determining the spacings between stations and the measurements will vary significantly depending on the reference points used. To permit assignments to be made in rule making proceedings on the basis of the measurement of spacings from particular transmitter sites other than the appropriate reference point would result in a reduction of the required assignment spacings. Accordingly we are denying all requests for the establishment of assignments where the minimum spacings would be measured not from the proper reference point but from possible transmitter sites. [31]

136. The Table of Assignments contained in the Commission's Third Notice permits the use of maximum power at all locations where an assignment was proposed.

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[26] For example, The Houston Post Company, in its comments, expressly supported the principle that in the Gulf area minimum spacings substantially above the minima in other areas are required. The Houston Post Company advanced the proposal that a specific limitation be made on assignments in this area so that stations operating on the same channel should be separated by 240 miles on Channels 2-6 and by 200 miles on Channels 7-13.

[27] See Paragraphs 70-81 above.

[28] Southern Minnesota Supply Company, Mankato, Minn.; Erie Television Corporation, Erie, Pa.; Airfan Radio Corp., Ltd., San Diego, Calif.; California Inland Broadcasting Co., Fresno, Calif.; Tribune Building Co., Oakland, Calif.; KUGN, Inc., Eugene, Oregon; and Kingsport Broadcasting Co., Kingsport, Tenn.

[29] For the same reasons we have rejected similar proposals for assignments in violation of the minimum separations where other than co-channel spacings are involved.

[30] See footnote 22 above.

[31] For the same reasons we have rejected similar proposals for assignments in violation of the minimum separations where other than co-channel spacings are involved.

A number of parties[32] contend that it would be possible to provide additional assignments in many locations if the stations at such localities were limited to power less than the maxima. For example, it is stated that if two stations serving small communities operate with minimum power they could be located as close as 73 miles co-channel and 19 and 25 miles adjacent channel for Channels 2-6 and 7-13, respectively, while at the same time receiving the same grade of protection offered by a separation of 180 miles shown in the Commission's standards. The parties accordingly have requested that the Commission provide for additional assignments at reduced power where such assignments will not cause interference greater than would exist under the prescribed minimum spacings.

137. The Commission does not believe that limited power stations should be provided for in the Table of Assignments at this time in order to squeeze in additional assignments. The effect of low power combined with close spacing is to reduce the interference-free coverage area of such stations, thus providing a sharply limited service. In the example cited above of two stations operating with minimum power (1 kw effective radiated power) and separated 73 miles co-channel, the interference-free Grade A service would be confined to 11 miles and the Grade B service to 14 miles. Further, the proposals for low power stations are all based upon operation of the co-channel stations with an antenna height of 500 feet. As the antenna heights of co-channel stations increase, the service area of the lower powered stations would decrease.

138. Further, these proposals rest on the implicit assumption that where interference is not caused to the Grade A service of a station, the minimum separations may be reduced below the standards adopted by the Commission. The television Assignment Table and the Rules with respect to television, however, recognize no protected contours. Rather they are based on the concept of affording each station the widest coverage possible consistent with an efficient utilization of the spectrum and the satisfaction of the needs of the various cities and communities in the United States. The Commission in considering grades of service in this proceeding has utilized the principle of iso-service contours. Basic to this principle is a recognition of the fact that, even though "objectionable interference" may not be caused in any contour, an inevitable degradation of service occurs. We have above discussed at length the basis for the separations we have established. The proposals here cannot be accepted because they are contrary to the basis upon which the co-channel separation requirements have been established.

139. Also to be considered is the safety factor we have previously mentioned. If we should find at a later date the interference which stations may suffer is greater than we have predicted upon the basis of available data, generally only Grade B service will suffer whereas the impact on Grade A service will be little, if any. Moreover, power could then be reduced if it were decided that the interference should be reduced. But in the case of stations operating with lower power at reduced separations it would be more difficult to further reduce power and the service that would generally suffer would be Grade A service.

140. Accordingly, the Commission finds that it must deny the requests of the parties seeking additional assignments where such assignments would require operation at less than the maximum powers specified in this Report.

141. In establishing the co-channel assignment spacing requirements set out above, we have considered carefully the comments and evidence of all the parties who have requested assignments at spacings below the minima adopted herein. Insofar as we have reduced the minimum assignment spacing in Zone I from that proposed in the Third Notice, the requests of certain of the parties for reduced minimum assignment spacings have been granted. We find, however, no adequate basis on the record for granting any of the other requests for reduced minimum spacings and we have found no convincing reason to deviate from our minimum assignment spacings in acting on any specific counter-proposal in this proceeding.

142. The following is a summary of the minimum co-channel assignment spacings provided for herein:

	VHF	UHF
Zone I	170 miles	155 miles
Zone II	190 miles	175 miles
Zone III	220 miles	205 miles

Classes of Stations: Powers and Antenna Height

143. In the Third Notice, the Commission stated:

> The Commission's Notice of Further Proposed Rule Making issued July 11, 1949, provided for three classes of stations, i.e. community, metropolitan and rural stations. During the hearings on the General Issues relatively little comment was offered concerning the proposed classifications. In reviewing this proposal, the Commission has concluded that it is desirable to reduce station classifications to a minimum and that more than one class of station is unnecessary if provision is made for appropriate power ranges for the various sizes of cities and rural areas. Accordingly, only one class of television broadcast station is proposed, with provision for minimum and maximum effective radiated powers in accordance with the respective tables set forth below:
>
> (1) Minimum Power

Population of city (excludes adjacent metropolitan areas):	Minimum effective radiated power[1] (in db above 1 kw)
Above 1,000,000	17 db/500 ft. Ant.
250,000-1,000,000	10 db/500 ft. Ant.
50,000-250,000	3 db/500 ft. Ant.
Under 50,000	0 db/300 ft. Ant.

> [1] Or equivalent, based on the same Grade A service radius as with these values of effective radiated power and antenna height above average terrain. A chart showing this relationship is attached to Appendix B and identified as Appendix IV. No minimum antenna height is specified. However, wherever feasible, high antennae should be used to provide improved service.
>
> (2) Maximum power. The maximum effective radiated power to be authorized on the respective channels is set forth in the following table:

Channels	Maximum effective radiated power (in db above 1 kw)
2-6	20 db/500 ft. ant.
7-13	23 db/500 ft. ant.
14-83	23 db/500 ft. ant.

144. No one has objected to the Commission's proposal to establish only one class of station and to permit any station to operate on any channel, consistent with the Rules and standards. Some comments have been received with respect to operation with lower powers where the minimum mileage separations provided for in the Rules cannot be met. These comments have been considered above in another portion of this Report and the requests have been denied for the reasons set forth. The Commission is, therefore, finalizing its proposal to have only one class of station.

145. No comments were received with respect to the Commission's proposal concerning minimum power. Generally, we believe we should adhere to the proposal made in the Third Notice. It is a fact, however, that with very low effective radiated powers the service areas of television stations are extremely limited. Accordingly, we have provided in our Rules that no television station shall in any case operate with less than 1 kw effective radiated power. As so modified the proposal in the Third Notice with respect to minimum power is adopted.

146. Several comments have been received relating to the Commission's proposal with respect to maximum power for television stations. Radio Kentucky, Inc., and Radio Virginia, Inc., both oppose the granting of further power in the VHF above the maximum presently provided for in the Rules. The reason for this position appears to be a desire not to increase the disparity of coverage between the VHF and UHF. Havens and Martin opposes this proposal to limit power and subscribes to the Commission's proposal for an increase in existing power limits in the VHF. A. Earl Cullum's comment refers to his testimony relating power to frequencies in order to obtain comparable coverage. The frequencies involved on Channels 7 through 13 are approximately three times the frequencies involved on Channels 2 through 6, and the UHF channels allocated to television are approximately three times the frequencies on Channels 7 through 13. Cullum contends that in both of these cases the maximum power for the higher channels should be three times that of the lower channels and that putting a limit of 200 kw (23 dbk)[33] on the power to be used on Channels 7 through 13, and 14 through 83 is unfair to those who wish to use these channels in competition with assignments made on Channels 2 through 6. James C. McNary filed a comment in which he stated that an amplifier tube with 25 kw was feasible on the UHF. Such a tube it was stated would provide a radiated power of 400 kw (26 dbk). McNary, therefore, recommends that provision be made for the use, on an individual basis, of power in excess of 23 dbk on Channels 14 through 83. Pacific Video Pioneers also proposes that the maximum power limitation of 23 dbk (200 kw) on Channels 14-83 be liberalized to permit single stations to increase to 26 dbk (400 kw) on a showing that objectionable interference will not be caused to other assignments using 23 dbk (200 kw) at 500 feet and to permit horizontal increases in power by two or more stations. On the other hand, RCA-NBC, and Communications Measurements Laboratories, Inc., support the Commission's proposal.

147. On the basis of the record it appears that the Grade B coverage of the television channels decreases as the frequency involved increases. Considering first the power relationship between Channels 2-6 and Channels 7-13 the propagation charts in the record establish that, assuming operation at 500 feet and the maximum powers proposed in the Third Notice, the Grade A service extends to 33 miles on Channels 7-13 as compared to 27 miles on Channels 2-6.[34] However, in the case of Grade B service and where the only limiting factor is noise the service on Channels 2-6 extends 57 miles compared to 50 miles on Channels 7-13, based on the same powers and antenna heights. In view of this disparity with respect to Grade B service there was considerable testimony in the record favoring a three-fold differential in power between Channels 2-6 and Channels 7-13 rather than the powers proposed by the Commission.

148. The arguments described above are somewhat misleading since the prediction of service areas is made in all cases on the basis of noise limitations only. Co-channel operation is, however, a substantial factor in the determination of the effects of permitting an increase in power such as is requested here by the parties. For example, at 170 mile station spacing, with maximum power as specified under the Third Notice and 500 feet antenna height, the Grade B service of a station operating on Channels 2-6 or 7-13 would extend 41 miles and 47.5 miles, respectively, in the direction of a co-channel station. These coverages are related to the station separation and would be unchanged by the same increase in power of

[32] Pennsylvania Broadcasting Company, Philadelphia, Pa.; Southeastern Broadcasting Company, Macon, Ga.; Middle Georgia Broadcasting Company, Macon, Ga.; The Brockway Company, Watertown, N. Y.; Hampton Roads Broadcasting Corp., Norfolk, Va.; Jacksonville Broadcasting Company, Jacksonville, Fla.; Loyola University of the South, New Orleans, La.; The Gazette Company, Cedar Rapids, Iowa; Telegraph Herald, Dubuque, Iowa; Kingsport Broadcasting Company, Kingsport, Tenn.; Michigan State College, East Lansing, Mich.; Hartford Times, Inc., Hartford, Conn.; Travelers Broadcasting Service Corp., Hartford, Conn.; Southern Minnesota Supply Company, Mankato, Minn., and Indiana Technical College, Fort Wayne, Indiana.

[33] As used herein "dbk" signifies power in decibels above one kilowatt.

[34] See in this connection our discussion above of the manner of prediction of service areas and interference.

all stations on the same channel. However, in other directions, assuming noise as the only limiting factor, such stations would furnish Grade B service as far as 57 miles and 50 miles, respectively, for the channels stated. Similarly, at 200 mile spacing with stations on the same channel operating with the same power and antenna height, the Grade B service of a station would extend 47 miles and 50 miles for Channels 2-6 and Channels 7-13, respectively, in the direction of a co-channel station, and 57 miles and 50 miles, respectively, in other directions. The latter distances for both examples could be increased by an increase in power of all stations on the same channel. Thus, although co-channel operation will be determinative of Grade B coverage in some areas, in many other areas an increase in power for stations operating on Channels 7-13 can effectively increase the Grade B service range and more nearly equalize the potential coverage of such stations with those operating on Channels 2-6. Even in those areas where the specified grades of service are determined by mutual station interference, the use of higher power will improve the service by helping to overcome other types of interference, such as receiver noise. This results in increased coverage efficiency and a more effective utilization of the spectrum space involved. In reviewing the comments that have been filed and the whole record in this proceeding, the Commission has, therefore, concluded that an additional 2 db should be permitted on Channels 7-13 providing for a total maximum power of 25 dbk (316 kw). Where noise is the only limiting factor, this increase will add approximately 3 miles to both the Grade A and Grade B service areas of Channels 7-13.[35]

149. Similar considerations are involved in establishing maximum power limitations in the UHF. According to the median field strength requirements, Channels 2-6 require 68 dbu[36] for Grade A service and the UHF channels require 74 dbu. Since both the low VHF and UHF areas are, pursuant to this Report to be computed from the same 63 megacycle curves and considering noise to be the only limiting factor, it is obvious that the UHF must have an additional 6 db to obtain the same Grade A service area. Likewise the median field strength required for Grade B service is 47 dbu and 64 dbu for Channels 2-6 and the UHF respectively. Hence an increase of 17 db would be necessary in the UHF to equalize the Grade B service areas where noise is the only limiting factor. The same considerations which impelled the increase in the maximum power on Channels 7-13 to 25 dbk (316 kw) impel an increase in the maximum UHF power to 30 dbk (1000 kw). This increase will extend the Grade A and Grade B service areas of stations operating with 500 feet antennas to 32 miles and 47 miles, respectively, where noise is the only limiting factor. In establishing this maximum power for the UHF, we recognize that these powers may not be immediately attainable, but we believe, on the basis of the record, that provision should be made for such an increase since we are confident that developments in the art will achieve such powers.

150. The maximum radiated power permitted under the Rules adopted herein is tabulated below:

Channels	Effective Radiated Power
2-6	20 dbk (100 kw)
7-13	25 dbk (316 kw)
14-83	30 dbk (1000 kw)

151. In making these increases in power we recognize that not all stations in all communities will operate with such maximum power. Where stations operate with such maximum power the resulting added coverage of the stations will almost always more than offset the decreased service areas of other stations affected. We have, further, by reason of the mileage separations which we have required in the Rules, provided that where such powers are used the service area involved will not be unduly reduced. Accordingly, we believe that the provisions with respect to increased power made herein are required in the public interest in order to provide a more effective use of the portion of the spectrum devoted to television broadcasting.

152. In the Third Notice the Commission stated with respect to antenna heights:

> Any station may be authorized on appropriate application to increase its power to the maximum set forth above without the necessity of a hearing so far as interference to other stations is concerned. The use of antenna heights greater than 500 feet above average terrain is encouraged as a means for improving the quality of service. If an antenna height greater than 500 feet is used, the effective radiated power shall be limited to that value which will avoid interference within the Grade A service radius of any other station, either existing or provided for in the Table of assignments, on the basis of the operation of such station with the maximum power and antenna height of 500 feet as set forth above. Where antenna heights of less than 500 feet are utilized, the effective radiated power shall not exceed that listed above.

153. Several comments have been filed with respect to the application of the proposal in the Third Notice to limit increases in antenna height because of adjacent channel interference. These comments contend that the Commission should not prevent the use of heights above 500 feet because of interference that might be caused to stations operating on adjacent channels. The American Broadcasting Company[37] points out that in the case of WJZ-TV located on the Empire State Building, the power would be restricted under the Third Notice to 15.4 dbk because of the assignments of the adjacent channel to New Haven. ABC proposes that when antenna heights above 500 feet are utilized the limitation on power shall only apply where the Grade A service is invaded by the *co-channel* interference. ABC also points out what appears to be the discontinuity existing in the Commission's proposal between antenna heights of 500 feet and those above 500 feet. ABC cites the case of two adjacent channel stations in the Channel 7-13 range with transmitters separated by 60 miles. Under the proposal in the Third Notice, both stations would be permitted to use powers of 23 dbk at 500 feet antenna height even though both stations would suffer a reduction in area of 31 square miles within their Grade A contours. If, however, one of the stations used, for example, an antenna height of 505 feet through choice or necessity, application of the proposed rule would result in reduction of the power of this station to approximately 19.5 dbk and the service area would be reduced from 3,220 to 2,465 square miles, a loss of 23%. ABC contends further that the proposal is inconsistent with other Commission proposals which encourage high antennas wherever feasible both to increase service and reduce interference. It also contends that the gain in service area by increasing the antenna height of one of the stations is much greater than the loss of service area to the adjacent channel station which has not changed its height. General Teleradio, Inc., took a position similar to that of ABC.

154. The Allen B. DuMont Laboratories, Inc., also notes the alleged discontinuity in the power/height proposal and suggests that the rule might be amended to permit both the affected stations to agree to increase power simultaneously. A. Earl Cullum's comments that the proposed power/height rule is a good general allocation principle provided it is tested by *co-channel* conditions. If the proposed rule is adopted, he claims, it would discourage rather than encourage the use of taller antennas. Cullum further states that the rule would place an arbitrary requirement in the Rules and prevent a station from providing additional service. James C. McNary requests that the adjacent channel interference considerations for antennas above 500 feet on certain channels should be clarified. Earle C. Anthony, Inc., recommends that —6 db[38] rather than 0 db be used as the permissible adjacent channel ratio.[39] He cites testimony of Thomas Goldsmith and William Lodge to substantiate a —6 db ratio.

155. Although several parties subscribed to the Commission's Third Notice in toto and thus by implication were on record as favoring the adjacent channel ratio and power-height relationship, none of these parties singled this item out for specific comment. Elm City Broadcasting Corporation (WNHC-TV), New Haven, Connecticut, filed comments opposing the comments of ABC, Inc., and General Teleradio, Inc. The comments of WNHC-TV are based on its particular situation with regard to possible adjacent channel interference from WJZ-TV and WOR-TV, with WNHC-TV operating on Channel 8. It is contended that it would be unfair to limit the service areas of stations receiving adjacent channel interference from other stations utilizing particularly high antennas beyond the extent contemplated in the Third Notice.

156. The record clearly supports the use of greater antenna heights where possible to achieve maximum channel utilization. However, the existence in some cases of a small amount of adjacent channel interference would, if the proposal in the Third Notice is adhered to, prevent the accomplishment of the very objective which is sought. In fact the parties point out a discontinuity in the heights and power, which would exist under the Third Notice proposal. The parties, therefore, proposed to remove this limitation and would provide for the acceptance of a small amount of adjacent channel interference over and above that originally contemplated. The record shows that this small amount of interference is minor when compared with the accompanying gain in service and consequently should not prevent acceptance of the parties' proposal, particularly since adjacent channel interference is susceptible to treatment by technical expedients and at the most results in a substitution of one service for another in so far as the listener is concerned.

157. Adjacent channel interference has not been a severe problem in the past and it appears that it is not costly to provide additional adjacent channel selectivity in receivers if necessary. We believe the record supports a 0 db adjacent channel interference ratio. On this basis the rules with respect to adjacent channel mileage separations will not unduly reduce service areas of individual stations. Accordingly, we have deleted from the Rules adopted herein any provisions which would prevent the use of higher antennas because of adjacent channel interference that would be caused to other stations.

158. The Commission has also given further consideration to the use of antenna heights above 500 feet. As we have pointed out the record clearly supports a policy of the encouragement of increased antenna heights. The record contains detailed engineering studies showing that increased antenna heights are much more advantageous than increased power. It is shown that the ratio of service area gained to service area lost by other stations increases with antenna height. It has also been shown that a given increase in radiated power is more effective with higher antenna heights than it is with an antenna height of 200-500 feet. When two stations are operating co-channel and one station is allowed to increase its antenna height greatly in excess of the other, the increase in area covered by the first station will greatly exceed the loss in service to the second station. If the two stations do not change antenna heights, but the first station increases power, the area gained by

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[35] We believe that the Radio Kentucky and Radio Virginia requests must be denied. The record clearly requires us to raise the existing limits on power in the VHF in order to achieve an efficient use of the spectrum.

[36] As used herein "dbu" signifies field strengths in decibels above one microvolt per meter.

[37] The situation involving KECA-TV, the ABC station in Los Angeles, and KFMB-TV, San Diego is discussed separately below.

[38] As used herein adjacent channel interference ratio signifies the ratio of median desired and undesired field strengths.

[39] Lynchburg Broadcasting Corp., Lynchburg, Virginia; KTTV, Inc., Los Angeles, California, and KMTR Radio Corp., Los Angeles, California all propose an adjacent channel interference ratio of -6 db.

that station is still greater than than lost by the second station but the effect is not as pronounced as is the case where the antenna height is increased. Again it should be emphasized that in all cases the service areas are not unduly reduced when the minimum spacings are maintained.

159. Accordingly, in order to achieve a more efficient utilization of each television channel we are modifying the provisions with respect to the use of antennas over 500 feet to specify that in Zones II and III where wider station separations have been maintained in the Table[e], antennas will be authorized in the VHF up to heights of 2000 feet, with maximum power, without regard to co-channel interference that will be caused by such operation with the greater antenna height. In Zone I[u] we have provided that VHF stations may use antennas up to a height of 1000 feet, with maximum power. In view of the fact that station separations in this Zone are lower than in Zones II and III, and in view of the fact that cities in Zone I are more closely located than cities in Zones II and III, until a larger body of data is available with respect to operation with antenna heights over 1000 feet with higher powers, we are unable to permit operation with such powers at heights over 1000 feet. The rules we have adopted with respect to antenna heights in the VHF constitute no substantive modification of the proposal in the Third Notice. Stations in the VHF, under the Third Notice proposal, would have been entitled to operate with antenna heights of 2000 feet since at these heights there would be no interference to Grade A service to co-channel operations, assuming co-channel operation at maximum power and an antenna height of 500 feet (as was done in the Third Notice).

160. In the UHF we have provided in our Rules that stations may operate at full power in all Zones, with antennas up to a height of 2000 feet, without regard to co-channel interference that will be caused by such operation with the greater antenna height. We have provided no special rule with respect to Zone I in view of the fact that UHF stations will not be able to operate with maximum effective radiated power for some time to come. We recognize that, in the UHF, loss of Grade A service of a co-channel station operating with maximum power (30 dbk) and an antenna height of 500 feet would be caused by another station operating on the same channel with 2000 feet and one megawatt power where the co-channel separation was less than 183 miles. We feel, however, that any loss of Grade A service that is caused by operation with such greater antenna heights and maximum power should be permitted in view of the added service gained.

161. Our choice of a 2000 foot antenna height limit is based, mainly, on the fact that the propagation data in the record at heights over 2000 feet is extrapolated from data obtained under 2000 feet. Moreover, relatively few stations are now or will in the near future be operating at heights over 2000 feet, and these are primarily in areas where greater co-channel separation has been maintained. Where the height is above the 2000 foot maximum we have provided a chart in the Rules which permits operation with less than maximum power but which nevertheless gains some of the benefits afforded by sites over 2000 feet. We encourage interested individuals and licensees to conduct propagation tests to determine the effect of operation with high powers and antenna heights over 2000 feet. When such data becomes available the Commission will consider appropriate changes in the chart established for the determination of power where antenna heights over 2000 feet are used.

162. In Zone I where the greatest permissible VHF antenna height with maximum power is 1000 feet, higher antenna heights will be permitted but only with appropriate reductions in power. A chart has been included in the Rules to make possible the determination of the power that will be permitted at any antenna height over 1000 feet. It will be noted that we have maintained the power ratio of 3.16 to 1 between powers to be employed on Channels 2-6 and 7-13.

163. There remains for consideration the comment of the American Broadcasting Company which requests that KECA-TV, owned and operated by ABC on Channel 7 in Los Angeles, be permitted to operate with maximum power on top of Mount Wilson. ABC requests that the Commission's Rules authorize operation with maximum power even at heights such as that on top of Mount Wilson. If such operation is not permitted as a matter of general rule, ABC requests that an exception be made in the case of KECA-TV. Opposition to this request has been filed by the Kennedy Broadcasting Company which owns and operates KFMB-TV on Channel 8 in San Diego, California. KFMB-TV is located 106 miles from KECA-TV. KECA-TV has an antenna height of 3040 feet above average terrain and an antenna height of 4987 feet in the direction of KFMB-TV. The basis of Kennedy's opposition is that operation at maximum power on top of Mount Wilson will cause excessive interference to operation of KFMB-TV, especially in view of what is alleged to be unusual propagation characteristics prevalent in that area by way of the proposphere.

164. We have above decided that VHF stations in Zones II and III will have a right to operate with maximum power with antenna heights up to 2000 feet above average terrain and that at heights above 2000 feet, a special chart shall be used to determine maximum power. It is to be noted that KECA-TV would be permitted to operate with the maximum power of 21.9 dbk (155 kw) at its present location on Mount Wilson. No special circumstances are presented which would warrant a special rule in the case of KECA-TV. Nor do we believe that the Commission should adopt any special rules at this time to afford protection against adjacent channel interference when one of the stations is operating with an antenna height over 2000 feet at the maximum powers provided for in the special chart. With particular reference to the KECA-TV—KFMB-TV situation, we do not believe that KECA-TV operating with the maximum power permitted will cause excessive interference to the operation of KFMB-TV in San Diego. At a later time when more extensive propagation data is available with respect to operation with higher powers at antenna heights over 2000 feet, we will be in a position to re-examine problems of a general nature or relating solely to specific communities, that are created by adjacent channel interference. Such examination will be made in the light of further data which will then be available with respect to receiver selectivity characteristics.

165. In establishing Rules with respect to power and antenna height we have considered the effect of our action on the development of the UHF. We are unable to conclude that Rules adopted herein will prevent the fullest development of this new and valuable portion of the spectrum. We believe that under these circumstances it is clearly in the public interest to make the most efficient use of both the VHF and the UHF by providing for the use of antennas and powers that will permit the listening public to receive the most and the best service possible.

Adjacent Channel Separations

166. The Third Notice of Further Proposed Rule Making stated with respect to adjacent channel separations:

> *Adjacent Channel Separation.* Under the present television standards, objectionable adjacent channel interference results when the ratio of the desired to the undesired signal falls below 6 db. The Commission's proposals of July 11, 1949, did not recommend any change in this ratio. Considerable data presented to the commission indicate that this ratio is too conservative and that it could be 0 db or —6 db. In general adjacent channel interference has not been of a serious nature and such problems as do exist can be solved to a very considerable extent by improvements in receiver design which are neither difficult nor costly. Experience has shown that many receivers are giving satisfactory adjacent channel performance in areas where interference is predicted under the present standards.
>
> The Commission's proposals of July 11, 1949, provided for a normal adjacent channel separation of 110 miles in the VHF band and 100 miles in the UHF band—one-half the distance provided for the normal co-channel separations. Since adjacent channel interference is so readily subject to being controlled by adequate design and production methods by manufacturers, the Commission believes that adjacent channel separations should be reduced, thus making possible a greater number of assignments. The Commission is of the opinion that these separations should be based upon receiver performance which may reasonably be expected of manufacturers and not on the characteristics of the poorer receivers. Separations have been based on the assumption of receivers having an adjacent channel rejection ratio of —6 db. Thus a median field strength ratio of 0 db should provide service from one station or the other at each receiver location for at least 90 percent of the time, irrespective of signal fading. The Table of Assignments has been based upon an adjacent channel separation between cities of 70 miles for Channels 2-13 and 65 miles for Channels 14-83. The separations between transmitters are 60 miles for Channels 2-13 and 55 miles for Channels 14-83.

167. For the reasons stated above, we have deleted from the Rules adopted herein any limitation on the use of antenna heights based upon adjacent channel interference. Under these circumstances we are of the opinion that we have no need of specifying in our Rules a definite ratio of desired to undesired field strengths on adjacent channels. The adjacent channel separations provided for herein will not unduly reduce the service area of individual stations. We have, therefore, eliminated all reference to adjacent channel ratios and we have provided that the minimum mileage separation requirements should alone govern spacing of adjacent channel stations.

168. The Commission's Third Notice stated that the proposed Table of Assignments was based on minimum adjacent channel separations between cities of 70 miles for Channels 2-13 and 65 miles for Channels 14-83. We have lowered the minimum co-channel assignment spacing requirements in Zone 1 to 170 miles in the VHF and to 155 miles in the UHF. We, therefore, believe that the minimum adjacent channel assignment spacing requirements should be reduced proportionately to 60 miles in the VHF and 55 miles in the UHF. Moreover, we do not believe it necessary to impose higher minimum assignment spacings for adjacent channel operation in the other zones. Excessive tropospheric propagation has no relation to adjacent channel spacings since the effects of such propagation are felt at long distances from the transmitter rather than at relatively close distances. Accordingly, the reasons for treating Zone III differently from the rest of the country do not obtain in the case of adjacent channel spacings. Further, we do not believe we should have higher adjacent channel spacings in Zone II than we have provided for in Zone I. As we have pointed out, high minimum assignment spacings tend to decrease the number of assignments that may be made. In the case of co-channel spacings it is necessary to establish higher minima since in Zones II and III people in the rural areas tend to rely on service from stations relatively far away. But in the case of adjacent channel interference the listener does not suffer unduly. He will continue to receive one of the two potential services. In view of this fact, the minimum adjacent separations may be the same for the whole country and the following minima have been established:

VHF 60 miles
UHF 55 miles

Oscillator Radiation

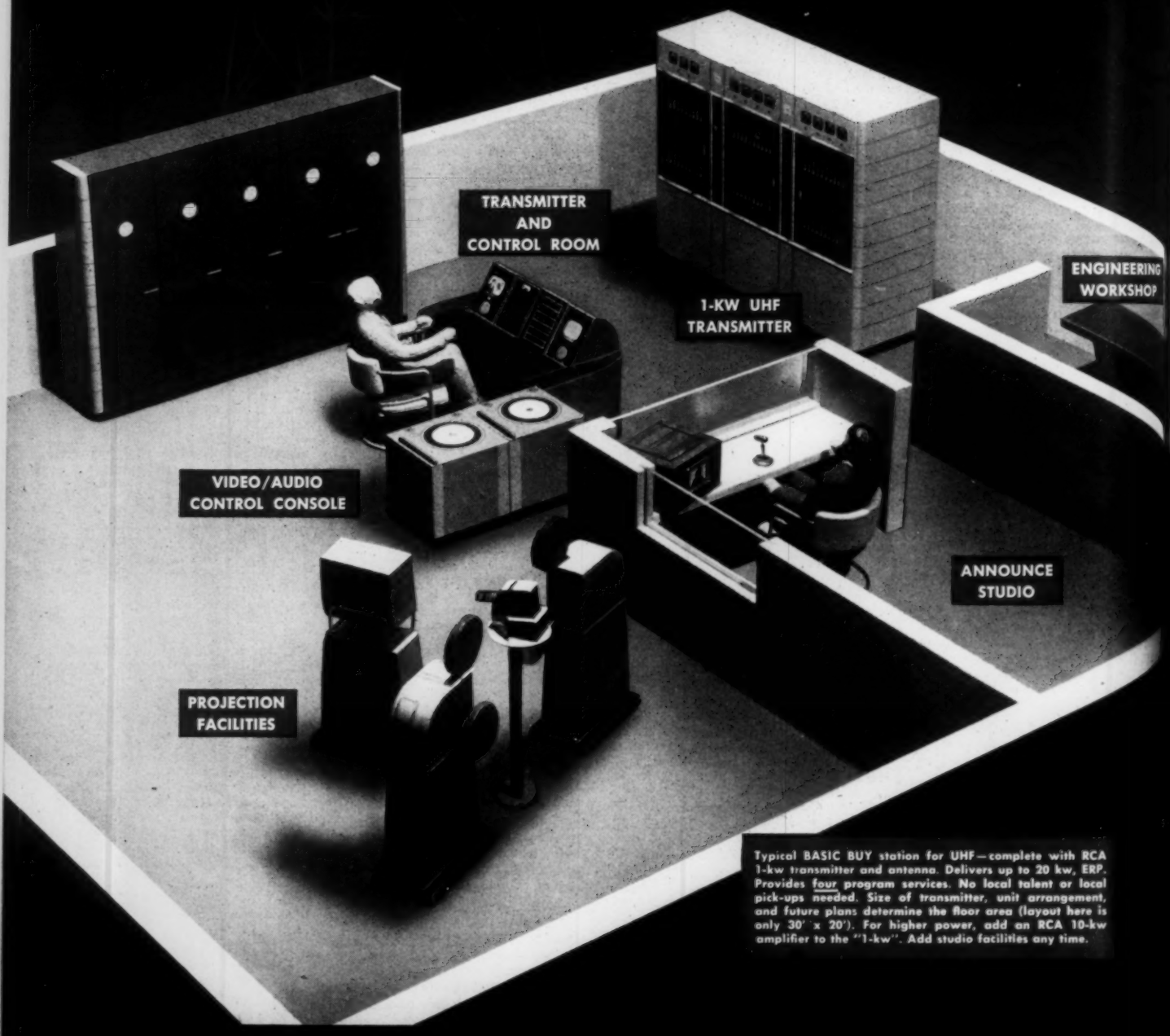
169. The Third Notice of Further Proposed Rule Making stated:

Oscillator Radiation—(a) VHF. The Commission's proposed

[e] For a description of Zones II and III, see Paragraphs 117-126 above.

[u] For a description of Zone I see Paragraphs 117-126 above.

RCA's TV "Basic



Typical BASIC BUY station for UHF—complete with RCA 1-kw transmitter and antenna. Delivers up to 20 kw, ERP. Provides four program services. No local talent or local pick-ups needed. Size of transmitter, unit arrangement, and future plans determine the floor area (layout here is only 30' x 20'). For higher power, add an RCA 10-kw amplifier to the "1-kw". Add studio facilities any time.

Buy" does the most

-with the least TV equipment

-VHF or UHF!

4 PROGRAM SERVICES

-no local studios needed!

- **Network programs**
- **Local films (16mm)**
- **"Stills" from local slide projector**
- **Test pattern from monoscope (including individualized station pattern in custom-built tube)**

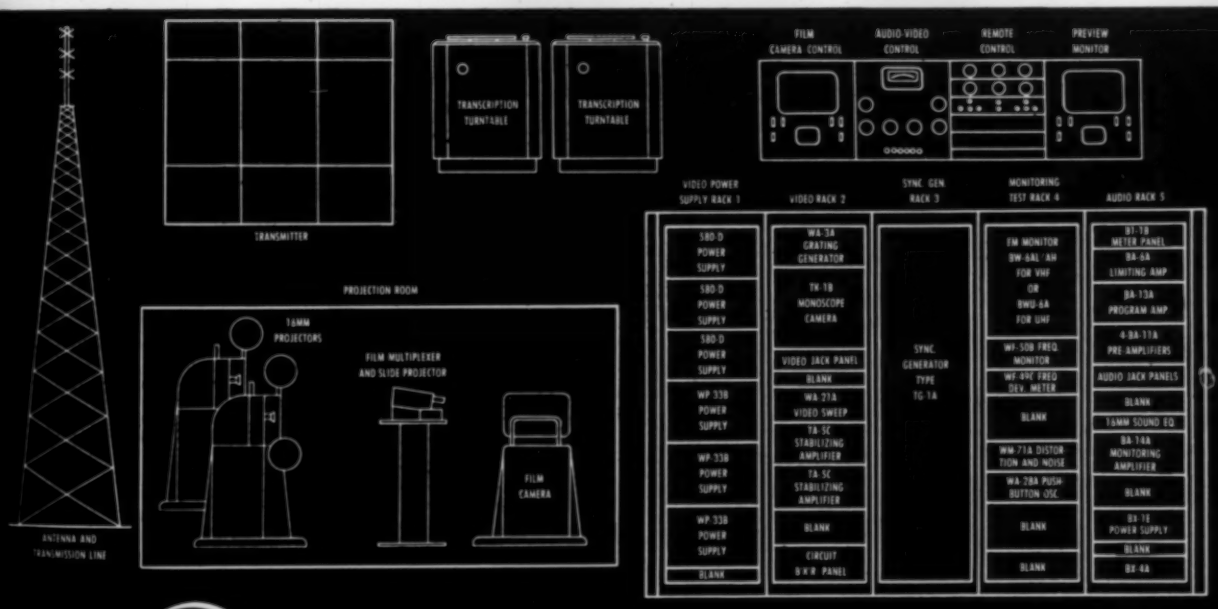
THIS PICTURE ILLUSTRATES what we think is the minimum equipment a TV station should have to start with—*and earn an income.* The arrangement can handle any TV show received from the network and provides station identification and locally inserted commercials as required. In addition, it offers an independent source of revenue—by including film and slide facilities for handling local film shows and spots, or network shows on kine recordings.

The BASIC BUY includes: A transmitter and an antenna (necessary for any TV station); monitoring equipment (required by FCC); film and slide equipment (for local programs—and extra income); monoscope camera for reproducing a test pattern of known quality (important for good station operation and as an aid to receiver adjustment); and a control console that saves operator time and effort (it enables one technical man to run the station during nearly all "on-air" periods).

RCA's BASIC BUY can be used in combination with any RCA TV transmitter and antenna, of any power—VHF or UHF. Matched design and appearance make it easy to add facilities any time (you need never discard one unit of a basic package). And note this: *RCA BASIC UNITS ARE IDENTICAL TO THE RCA UNITS USED IN THE BIGGEST TV STATIONS!*

RCA's BASIC BUY is already being adopted by many TV station planners. Let your RCA Sales Representative work out a flexible package like this for you—show you how to do the most with the least equipment!

This is what the BASIC BUY includes!



RCA
RADIO CORPORATION of AMERICA
ENGINEERING PRODUCTS DEPARTMENT
CAMDEN, N.J.

Table of television channel assignments set forth in its Notice of Further Proposed Rule Making, issued on July 11, 1949, did not take into account the effects of receiver oscillator radiation on assignments in the VHF or UHF band. Evidence has been presented to the Commission concerning interference caused to receivers as a result of the use of a 21 mc. I.F. by manufacturers of receiving sets. In order to avoid such interference, Radio-Television Manufacturers Association has , adopted as standard an I.F. of 41.25 mc in the VHF and UHF bands. No oscillator radiation problems are involved for these VHF receivers so far as television stations operating in the VHF is concerned. Because of the large number of television receivers now in use employing the 21 mc I.F., efforts have been made to minimize such interference without reducing the number of VHF assignments in the proposed table.

(b) UHF. There was general agreement at the above hearings that oscillator radiation is likely to be more severe in the UHF band than in the VHF band, due to the difficulty in suppressing such radiation in the higher frequencies. Further, because of the wide span of the UHF band it is not possible to place the oscillator outside the band and still employ an I.F. which is practical in the present state of the art.

Evidence was offered concerning a method of dealing with the oscillator radiation problem based on the "fold in" principle. It was proposed to divide the UHF band into four equal parts; to employ the lower and upper quarters for most assignments; to confine all oscillator radiation within the two center quarters; and to employ an I.F. of 111 mc. The Commission believes that the use of an I.F. of 111 mc. in television receivers is not feasible at this time. Existing tubes and those available in the foreseeable future will not permit adequate amplification with a reasonable number of I.F. stages. The use of the proposed I.F. will reduce adjacent channel selectivity. Further, setting up one-half of the UHF band as a repository for oscillator radiation would provide little incentive for receiver manufacturers to reduce such radiation. Accordingly, the "fold in" principle has not been adopted in preparing the proposed Table.

Although the Commission expects that continued improvements may eliminate the problem of oscillator radiation in the future, it does not appear practicable to expect such receivers in the near future.[40] Hence, the UHF table has taken into account the standard I.F. of 41.25 mc. adopted by the RTMA. Thus, stations in the UHF which are 7 channels apart are required to have their transmitters separated by a minimum of 60 miles. This separation affords substantially the same protection as does the co-channel separation provided for above.

[40] This same observation is also applicable to intermodulation, image interference and I.F. beat problems discussed below.

170. Communications Measurements Laboratories, Inc., proponent of the fold-in principle described above, objected to the proposal made in the Third Notice. In its objection, CML reiterates its position with regard to the "fold-in" principle. Upon full consideration of the record and the objections of CML, the Commission is still of the opinion that the views of CML are not sufficiently substantiated, either theoretically or by test, to provide assurance that an intermediate frequency in the 111 mc. range is currently practical. For this reason and for the reasons set out in the Third Notice, it is concluded that the Table of UHF Assignments should not be based on the "fold-in" principle. It is concluded further that there is inadequate evidence to support the establishment of an assignment Table on the basis of an intermediate frequency other than 41.25 mc. Accordingly, the proposals with respect to oscillator radiation made in the Third Notice are now finalized and stations in the UHF which are 7 channels apart are required to be separated by 60 miles. In view of the nature of the interference, different spacings are not necessary in the different Zones which have been established in connection with co-channel assignment spacings. A similar observation pertains to intermodulation, image interference and I.F. beat problems discussed below.[42]

171. The separations established herein to protect against oscillator radiation are based on the principle of non-overlapping Grade A service areas of stations 7 channels apart, so that receivers within the Grade A service area of one such station would not normally be tuned to receive service from the other station which would not be as good in qaulity. This arrangement reduces the probability of local oscillator interference within the Grade A areas of the respective stations. Since this protection is not absolute and is confined primarily to the Grade A service areas, it remains of utmost importance that continuing efforts be made to reduce the magnitude of local oscillator radiation in UHF receivers. It should also be emphasized that the success of separation requirements which recognize oscillator radiation and spurious responses depends on general industry adherence to the basic premises i.e. use of the standard I.F. of 41.25 mc. and fundamental oscillator operation. It would appear that the manufacturing industry has a direct responsibility to the set-purchasing public to avoid the harmful consequences of deviation from this protective standard. It would be unfortunate if the manufacturing industry or an appreciable portion thereof were to use different standards without adequate suppression measures. In this event, the Commission will of necessity be faced with the need for a re-examination of the problem to determine what more effective measures may be necessary to avoid the harmful consequences to the public.

Image Interference

172. The Third Notice of Further Proposed Rule Making stated:

Image interference (picture and sound). Image interference has raised no problems in the VHF band since a signal from another television station removed from the desired channel by twice the I.F. does not normally fall in another television channel. In the UHF band, however, where there is a large number of contiguous channels, image interference is expected to present interference problems. No allowance was made for this factor in the Commission's proposed table of July 11, 1949. The record indicates that image rejection of 30 to 40 db can be provided by UHF receivers of reasonably good design which employ a 41.25 I.F. There was general agreement that image interference should be avoided in making channel assignments. Accordingly, a minimum separation of 75 miles is provided between transmitters where UHF stations are separated by 15 channels to provide against picture image interference, and a minimum separation of 60 miles between transmitters where UHF stations are separated by 14 channels to provide protection against sound image interference. This separation provides substantially the same protection to the picture of a desired station as does the co-channel separation provided for above. A slightly smaller separation is provided for in the case of the sound image than the picture image because of the lesser interfering effect of the former.

173. There were no oppositions to the Commission's proposal in this regard, with the exception of Communications Measurements Laboratories, whose counterproposal has been previously discussed and rejected. Since the separation to minimize image interference is based on the intermediate frequency of 41.25 mc. and since the CML comments on image interference are based on a 111 mc. I.F., which has previously been rejected, the CML comment with respect to image interference need not be given further consideration. For the reasons set out above the proposal with respect to image interference is adopted and a minimum spacing of 75 miles is maintained between UHF stations separated by 15 channels to provide against picture image interference and a minimum separation of 60 miles is maintained between UHF stations separated by 14 channels to provide against sound image interference.

I.F. Beat

174. The Third Notice of Further Proposed Rule Making stated:

I.F. Beat. It is recognized that when two stations in a city are separated by an I.F. it is possible that the two signals will combine to provide a beat signal which will be picked up by the I.F. Amplifier. Where a 41.25 mc. I.F. is in use, such signals may exist in channels which are separated by seven or eight channels from the desired station. The effect is similar to that of intermodulation. As indicated above the seven channel separation is taken care of by the separation which is used to avoid oscillator interference. Accordingly, stations in the UHF band which are separated by eight channels are required to have a minimum separation of 20 miles between transmitters.

There were no oppositions to the proposal. For the reasons set out above, the proposal with respect to I.F. beat is adopted, and UHF stations separated by 8 channels are required to be separated by 20 miles.

Intermodulation

175. The Third Notice of Further Proposed Rule Making stated:

Intermodulation. The Commission's proposed table of July 11, 1949, did not take into consideration the effects of intermodulation. Although interference resulting from intermodulation has not been a problem in the VHF band, it is generally agreed that intermodulation is likely to be a more serious problem in the UHF band. Various arrangements have been proposed for reducing intermodulation such as a staggered arrangement of channels, or by wide frequency separation. Testimony in the record indicates that a three or four channel separation would serve an adequate protection against intermodulation. The Commission has concluded that the best method of avoiding problems of intermodulation is to use a normal minimum separation of six channels in a city, thus allowing for a desirable safety factor. There is general agreement that a distance separation of 15 to 20 miles is sufficient to provide protection against intermodulation since sufficiently high field intensities from two to more stations would not normally exist at any point between stations separated. Accordingly, in preparing the UHF assignments in the attached Table, stations closer than 20 miles have not been assigned channels less than six channels apart.

176. With regard to intermodulation, DuMont filed a comment which stated:

> The Commission's finding that "the best method of avoiding problems of intermodulation is to use a normal separation of six channels in a city, thus allowing for a desirable safety factor" applicable to UHF allocation would appear to be incorrect. Intermodulation results from the assignment of three stations to a city with an even two-channel jump between stations (Tr. 13449-13451). For example, the assignment of Channels 14, 16 and 18 to the same city would cause intermodulation, but 14, 16 and 19 would not result in interference (Tr. 13449).
>
> Recommendation. A separation of 20 miles between channels which cause intermodulation interference is recommended. The restriction of assignment of frequencies less than six channels apart which do not cause interference should be eliminated as wasteful of spectrum.

177. DuMont is in error in confining its consideration of intermodulation to three stations. It is easily shown, from the testimony in the record, that third order intermodulation produced by the combination of only *two* signals

[42] It should be pointed out that the separation requirements imposed to protect against oscillator radiation, intermodulation, images and I.F. beats do not provide for protection against interference of the above character which is caused by radio services operating outside the television band.

can occur in the UHF TV band. This type of intermodulation produces spurious signals on frequencies (fx) which can be computed as follows:

$$fx = 2fa - fb$$

where fa is the frequency of one station and fb is the frequency of the other station. This formula produces two values of fx, as each station is represented by fa and fb, respectively. These spurious signals could cause harmful interference to reception of stations even outside the 20 miles protection separation.

178. DuMont erroneously confines its consideration of intermodulation to stations assigned with a "two-channel jump." Although, other factors being equal, the intensity of the spurious signals produced by intermodulation tends to decrease as the frequency separation between stations is increased, intermodulation does not abruptly disappear at any particular value of frequency separation. DuMont therefore errs in stating that Channels 14, 16 and 19, assigned in the same city, would not result in interference. As is shown in the following example, the sound carrier of Channel 16 and the picture carrier of Channel 14 can produce a spurious signal due to intermodulation which falls within Channel 19 and cause interference. Similarly, the picture carrier of Channel 19 and the sound carrier of Channel 16 can combine to produce a spurious signal due to intermodulation which can cause interference to Channel 14.

Example:

Channel 14: 470-476 mc.; Channel 16: 482-488 mc.; Channel 19: 500-506 mc. Let the sound carrier of Channel 16, 487.75 mc., be f_s and the picture carrier of Channel 14; 471.25 be f_a. Then from the formula above ($f_x = 2f_s - f_a$):

$f_x = 2(487.75) - 471.25 = 504.25$ mc.,

which falls within and can cause interference to Channel 19.

Similarly if f_s be the sound carrier of Channel 16, 487.75 mc., and f_a be the picture carrier of Channel 19, 501.25 mc.,

$f_x = 2(487.75) - 501.25 = 474.25$ mc.,

which falls within and can cause interference to Channel 14.

It is also apparent from the foregoing example that it is necessary to take into account the channel spread of each spurious signal due to intermodulation. Each third order intermodulation combination produced by television signals having a 6 mc. channel width results in a potential spurious signal covering a channel width three times as great, or 18 mc. Thus, when stations are assigned Channels 14 and 16, intermodulation produces spurious signals on Channels 17, 18 and 19—not merely on Channel 18 as assumed by DuMont.

179. Except for the DuMont comments, there was no opposition to the Commission's proposal with regard to intermodulation. In view of the foregoing, it is concluded that the Commission's proposal concerning intermodulation should not be changed and that UHF stations separated by less than six channels should be separated by at least 20 miles.

Multiple Interference

180. The Third Notice stated with respect to multiple interference:

> In preparing the Table of Assignments, a study was made of several cases of multiple interference involving relatively uniform co-channel station separations in congested areas. This study based on information and data presently available, indicates that the grade A service areas obtained with the maximum powers as specified above are not infringed by combined interference from more than one signal when non-directional receiving antennas are assumed to be used. Moreover, if receiving antennas are assumed to have 6 db rejection in the directions of the undesired stations, the multiple interference under these conditions is not expected to exceed the single station case where no receiving antenna directivity is assumed. Thus, it appears that interference from more than one station may be accounted for satisfactorily by plotting a composite interference-limited contour on the basis of the most severe limitation in each direction due to any single interfering station. This approximation appears to be sufficiently accurate for the purpose of determining station separations and power limitations. Accordingly, it is proposed that interference from each station will be determined on an individual basis and that calculation of the effects of multiple interference will not be required.

181. No objections to this proposal have been received. Accordingly, the proposal has been followed in this proceeding.

Facilities Spacing

182. We have above discussed the difference between assignment spacing requirements and facilities spacing requirements and have also described the manner in which such spacings will be measured. In the Third Notice it was provided that minimum facilities spacings would be 10 miles less than minimum assignment spacings. A number of parties[42] have objected to the fact that the minimum assignment requirements proposed in the Third Notice were higher than the minimum facilities spacings requirements. We believe upon consideration of the whole record and comments in this proceeding that minimum facilities spacing requirements should be the same as minimum assignment spacing requirements. The reason stated in the Third Notice for lower minimum facilities spacings was to provide flexibility in the location of transmitters and in order to give communities within 15 miles of a city an opportunity to take advantage of the 15 mile rule. Upon reconsideration of this matter we believe that the advantages of such flexibility are more than counter balanced by the inconsistencies which would arise from having rules under which minimum facilities spacing requirements would be lower than minimum assignment spacing requirements. For under such rules, a petitioner seeking an assignment, in a rule making proceeding, could not secure an assignment where by proper measurement to an existing transmitter the proposal satisfied the lower facilities spacing requirements but did not satisfy the higher assignment spacing requirements. Accordingly, in the Rules adopted herein we have made all minimum facilities spacing requirements identical with minimum assignment spacing requirements.

[42] See footnote 22 above.

Offset Carrier

183. In the Third Notice the Commission stated with respect to offset carrier:

> The Commission's proposals of July 11, 1949, did not provide for the use of offset carrier operation either in the VHF or UHF band. Testimony presented at the hearing on the General Issues in the proceedings herein substantially favored offset operation and tests have indicated that such operation resulted in an improvement of approximately 17 db over non-offset carrier operation. A survey conducted by the Joint Technical Advisory Committee of stations engaged in offset carrier operations indicates practically unanimous support therefor. Although a question has been raised concerning possible frequency stability of transmitters used in these operations, it appears that this problem is not serious and that frequency stability can be provided which will insure adequate and proper offset carrier operations. Accordingly, the Commission has concluded that separations should be based upon stations employing offset carrier operation. When these rules are adopted as final, the Commission will specify the exact frequency to be utilized by each station for offset carrier operation. In the VHF band, stations will be offset from each other by plus or minus 10 kc and 1 kc tolerance will be specified. Similar requirements will be applied to UHF stations, but the specific values will be determined at a later date.

184. James C. McNary has filed a comment which states the following:

> The operation of offset carrier transmitters in the UHF portion of the spectrum, in particular, will require development of new frequency control apparatus, and will probably require continual monitoring of this apparatus from a central frequency standard, such as WWV, to maintain satisfactory operation. The continual monitoring believed to be required may be facilitated by appropriate choice of channel frequencies. For example, specifying the video carrier frequency to be an integral multiple of 1 megacycle may assist materially in simplifying the frequency control equipment. If the video carrier frequency is so specified, the sound carrier frequency and the frequencies defining the limits of the channel would have to be shifted from what would otherwise be their normal operation, if the established channel characteristics are to be maintained. The recommendation is therefore respectfully made that the specification of UHF channel frequencies be deferred until after an informal engineering conference to determine best system procedure. No specific page or exhibit in the transcript relates to this item.

185. We recognize that the adoption at this time of the Table of Assignments on the basis that all channels start on frequencies with integral numbers creates a situation whereby the video carrier of each UHF, as well as each VHF channel, is placed on a fractional number. We feel, however, that there is no evidence in the record to support Mr. McNary's position that it is more difficult to achieve satisfactory stability of monitoring equipment when operating with video carriers whose frequencies are fractional numbers than when the frequencies are integral numbers. No evidence was received in the record on this point from either Mr. McNary or any other person. Further, exact integral frequency operation could not be conducted in the majority of cases in any event since two of every three stations operating with offset carrier would have to operate on frequencies with fractional numbers. Despite the fact that many manufacturers were parties to this proceeding, Mr. McNary's problem was not raised at all. In addition it would appear that little, if any, additional equipment is required to maintain satisfactory stability of monitoring equipment when operating with quarter megacycle as compared with integral megacycle steps. Further, the evidence expressly established that equipment will be available for operation with offset carrier in the UHF. For this reason we are finalizing our proposal for the use of offset carrier in the UHF without further proceedings.

186. With the exception of James C. McNary's comments, no objections were filed to the use of offset carrier as proposed. RCA-NBC in its comment has supported the Commission's proposal.

187. In the Third Notice the Commission set specific tolerances for the use of offset carrier in the VHF and stated that similar requirements will be applied to UHF stations. The Third Notice, however, did not provide specific values in the case of UHF stations. Upon examination of the record we have determined that the tolerances with respect to the use of offset carrier should be the same both in the UHF and VHF. Accordingly, in the UHF band stations will be offset from each other by plus or minus 10 kc and 1 kc tolerance will be specified. With this addition the Commission's proposal with respect to offset carrier operation is being finalized.

188. Inasmuch as a considerable period of time will be required to work out offset frequencies for the assignment plan, such designations are not being made at this time but will be forthcoming at an early date. The licenses of existing stations will be modified in accordance with the designations that will be made and a transition period will be provided for in which existing stations may commence operation with offset carrier. A delay with respect to the establishment of specifications should have no effect on applications that may be filed by licensees or new applicants since the exact carrier frequencies for any particular channel do not become important until shortly before commencement of operation with offset carrier.

Intermixture of VHF and UHF Channels

189. In the Third Notice, the Commission said with respect to the intermixture of VHF and UHF Channels:

> The Commission's proposed table of July 11, 1949, was based to a considerable degree on the assignment of VHF and UHF channels in the same city. During the hearing on the General Issues, it was urged by some witnesses that the elimination of intermixture would simplify receiver problems and would minimize the broadcasters' competitive problems. It was argued that intermixture would tend to deter the construction of UHF stations and that until a large number of VHF-UHF receivers were distributed, such UHF stations as were constructed would have difficulty in surviving. On the other hand, many witnesses favored intermixture on the ground that it was impracticable to avoid it; that UHF stations would be constructed in cities located within the service areas of VHF stations and television viewers would expect their sets to receive both signals; and that receiver manufacturers would be obliged to build combination VHF-UHF receivers for such areas.
>
> It is reasonable to assume that economic problems will be faced by UHF broadcasters in areas where VHF broadcasting exists. Similar problems confronted the VHF broadcasters prior to increased receiver distribution in their respective areas. It is reasonable to assume that if the entire UHF band is allocated for regular television broadcasting, television receivers will be built to receive VHF and UHF signals. If intermixture were avoided, it would be necessary to limit many areas to one or two VHF stations even though UHF assignments were available for those areas and additional stations could be supported financially. Moreover, VHF stations are capable of providing a greater coverage than UHF stations. Hence, a more extensive television service is made available where some VHF assignments are made in as many communities as possible than where only VHF assignments are made in some communities and only UHF assignments are made in other communities. The Commission has concluded that the adoption of an assignment table based on non-intermixture constitutes a short-term view of the problem and is inadvisable. Accordingly, the proposed table attached herein has been prepared on the basis of intermixture of VHF and UHF channels.

190. Pursuant to Paragraph 12 of the Third Notice several of the parties object to or raise questions with respect to the intermixture of VHF and UHF channels in individual cities. These objections and questions are treated in the city-by-city portion of this Report. Mercer Broadcasting Company, Trenton, New Jersey, Lehigh Valley Television, Inc., Allentown, Pennsylvania, Radio Wisconsin, Inc., Madison, Wisconsin and Presque Isle Broadcasting Company, Erie, Pennsylvania, filed comments in which they contend that the intermixture of UHF and VHF is contrary to the public interest because they are not and may never be truly competitive services. Based on this allegation, these parties propose that all commercial television stations should be assigned to the UHF. This proposal has been considered in another portion of this Report. In so far as the comments of Mercer and Lehigh Valley relate to the application of Section 307(b) of the Communications Act they are treated below in further detail.

191. DuMont Laboratories, Inc., filed a comment which objects to the manner in which the Commission has applied the intermixture principle in its Assignment Table. It is to be noted in this regard that DuMont's own alternative assignment plan went very far in accepting intermixture in practice. The basis of DuMont's objection to the use of the intermixture principle in the Commission's Assignment Table is the effect that wide dispersal of VHF channels has on the number of VHF channels available to the large cities. Accordingly, DuMont's objection to the application of the intermixture principle in the Commission's assignment plan relates basically to matters that have been considered above in connection with the discussion of the DuMont nationwide assignment plan.

192. On the basis of the comments that have been received pursuant to Paragraphs 11 and 12 of the Third Notice, the Commission is not persuaded that its decision with respect to intermixture of VHF and UHF channels set out in the Third Notice was in error. With particular reference to the comments of DuMont, the Commission cannot subscribe to an assignment plan which in order to assign 4 VHF channels to as many large cities as possible disregards other important objectives. We have above considered the merits of DuMont's objections to the basic principles underlying the Commission's assignment plan. Our dismissal of these objections foreclose the adoption of DuMont's approach to the intermixture problem.

193. Related to the intermixture problem are objections to the Commission's proposed Table, on the ground that it did not provide for a separate and distinct assignment of VHF and UHF channels. These parties[44] contend that because of distinctions which exist between channels in the VHF and UHF band, the Commission is required to assign VHF and UHF channels separately, in order to satisfy the requirements of Section 307(b) of the Communications Act, which provides:

> In considering applications for licenses, and modifications and renewals thereof, when and in so far as there is demand for the same, the Commission shall make such distribution of licenses, frequencies, hours of operation, and of power among the several States and communities as to provide a fair, efficient and equitable distribution of radio service to each of the same.

194. At the outset it should be stated that we agree with the contention of the parties in so far as they claim that the Commission should disperse both VHF and UHF widely among states and communities. The Assignment Table proposed in the Third Notice and the Assignment Table adopted herein make a wide dispersal of both VHF and UHF channels among the states and communities. We must, however, reject the contention of the parties that Section 307(b) requires the Commission to treat VHF channels as completely different from UHF channels in making an Assignment Table. We think it clear that the fair, efficient and equitable distribution required by the Communications Act has reference to over-all distribution within any given radio service and not with respect to every *type* of station within a service. *Federal Radio Commission* v. *Nelson Brothers Bond and Mortgage Company*, 289 U.S. 266, at 281. In the case of television, stations operating in the UHF and VHF bands, although marked by distinguishing characteristics, will together constitute an integrated television service. We have concluded, therefore, that the requirements of the Act can best be met by an over-all Table of Assignments, which includes within its scope all channels which will be utilized in the television service.[45]

195. In arguing that Section 307(b) of the Communications Act requires the Commission to make separate and distinct assignments of VHF and UHF channels, the parties lay particular stress on the decision of the Court of Appeals in *Easton Publishing Company* v. *Federal Communications Commission*, 85 U.S. App. D.C. 33, 175 F. 2d 344. They contend that since there are admitted differences between VHF and UHF television facilities, as in the case of FM and AM, the holding in the *Easton* case must be construed as requiring the Commission to assign the VHF and UHF facilities independently.

196. The parties' reliance on the Easton decision is misplaced. The Easton decision clearly confirms that the Commission is not bound by a hard and fast rule in achieving the "fair, efficient and equitable distribution of radio service" required by Section 307(b). And the *Easton* case emphasized that the Commission must decide, in the light of the situation before it, what principles of allocation and assignment will achieve the prescribed statutory goal, and that Congress has conferred broad discretion on the Commission to reach that goal, so long as its discretion is exercised within the standards imposed by the statute. See *Federal Communications Commission* v. *Pottsville Broadcasting Co.*, 309 U.S. 134; *Ward* v. *Federal Communications Commission*, 108 F. 2d 486, 491 *Cf. National Broadcasting Company* v. *United States*, 319 U.S. 190, 224; *Radio Corporation of America* v. *United States*, 341 U.S. 412.

197. Because television is in a stage of early development and the additional consideration that the limited number of VHF channels will prevent a nationwide competitive television service from developing wholly within the VHF band we are convinced that the UHF band will be fully utilized and that UHF stations will eventually compete on a favorable basis with stations in the VHF. The UHF is not faced as was FM, with a fully matured competing service. In many cases UHF will carry the complete burden of providing television service while in other areas it will be essential for providing competitive service. In view of these circumstances, we are convinced that stations in the UHF band will constitute an integral part of a single nationwide television service.

198. With respect to the propagation characteristics of the UHF band, as compared to the VHF, we believe that such differences as exist will prove analogous to those formerly existing between the higher and lower portions of the VHF television band.[46] We are persuaded that the differences in propagation characteristics will not prevent UHF stations from becoming an integral part of a single service.

199. It is alleged that equipment for employing higher power in the UHF band is not available and that it is not known when such equipment will be available. This contention is not supported by the record. There is evidence that it will be possible to operate stations in the UHF band with 400 kw. radiated power by the time that authorizations are issued for such stations. Further, there is no reason to believe that American science will not produce the equipment necessary for the fullest development of the UHF.

200. In any event, it is clear that in formulating an assignment table which will be the basis for the over-all development of television broadcasting in this country, the public interest requires the Commission to take a long-range view of the future of television. Present equipment[47] and economic problems may temporarily handicap operations in the new UHF band and place certain communities at a disadvantage. Such immediate considerations, however, cannot be allowed to obscure the long-range goal of a nationwide competitive television service, in which stations in both the UHF and VHF bands will constitute integral parts. We find that one over-all table of assignments for the television service is best calculated to achieve that goal.

Changes in the Assignment Table

201. In the Third Notice the

[44] These parties are: Easton Publishing Co., licensee of FM Station WBBX, Easton, Pennsylvania, and, on a share-time basis with Lehigh Valley Television Inc., applicant for Channel 8 to serve the Allentown-Bethlehem-Easton metropolitan area; Travelers Broadcasting Service Corp., license of Stations WTIC and WTIC-FM, Hartford, Conn.; and Mercer Broadcasting Co., licensee of FM Station WTCA, Trenton, N. J. Other contentions with respect to the illegality of this Table made by these parties have been discussed in the Commission's Opinion of July 13, 1951 and the contentions made by the parties are rejected for the reasons set out in that Opinion (FCC 51-709).

[45] It is to be noted that some of these parties have not made any specific proposal as to how the channel assignments proposed in the Third Notice should be modified. These same parties have not appeared in the city-by-city portion of the hearing or offered evidence in that portion of the proceeding. In the absence of a specific proposal and evidence relating thereto the Commission is not able to afford them any specific relief.

[46] See the Commission's decision in the Washington television case, Bamberger Broadcasting Service, Inc., 11 FCC 23

[47] The record before us contains abundant evidence as to the feasibility of adapting existing receivers or building new ones which will be capable of receiving signals on all television channels.

Commission provided that with certain described exceptions no application for a television station in a community specified in the Commission's Table would be accepted for filing if said application requested a channel which was not contained in the Table. Persons desiring to apply for a channel not specified in the Table would first be required to secure an amendment thereof through appropriate rule making proceedings. Upon consideration of the comments and evidence before it the Commission has decided that it is in the public interest to adhere to this principle." See *Yankee Network, Inc.*, 12 FCC 751, 1043.

202. We find that the rule we have adopted is necessary to the proper conduct of our business. With the backlog of applications which will be on file for a period of time to come, the joinder of petitions to amend the Table with individual applications inconsistent with the Table would make unduly complex, if not impossible, the determination of issues presented with respect to the distribution of facilities among the states and cities. As we have described above, the current demand for television facilities which would present conflicting applications in different cities and communities in a multitude of cases can only be decided efficiently and appropriately in a rule making proceeding such as the instant one.

203. Moreover, it should be pointed out that similar procedural rules are in effect not only in the AM radio service but also in many other radio services. For example, the Commission does not permit persons to join a petition to change the AM rules with respect to maximum power or the classification of a channel with an application for facilities with more than the maximum permitted power or for facilities on channels on which such facilities are not permitted to operate pursuant to the Rules or Standards. See *FCC* v. *WJR, The Goodwill Station, Inc.*, 337 U.S. 265, 272; *Pittsburgh Radio Supply House* v. *Federal Communications Commission*, 98 F. 2d 303.

204. In view of the foregoing, we find the public interest requires the establishment of a Rule providing that the Commission will not accept applications for television stations if the channel requested is not specifically provided for in the Table of Assignments.[49]

205. The Third Notice provided that petitioners proposing changes in the Table would be required to show the extent to which the changes conformed to the priorities listed in the Third Notice. We have above discussed the basic principles which have been adhered to in establishing the Table of Assignments. Upon reconsideration, we have decided to omit any requirement that petitions for changes in the Table show the extent to which the changes conform to specific priorities. Each request for a change in the Rules or Table will merely be required to set out with clarity the reasons for the proposed change.

206. Earle C. Anthony, Inc., has requested that petitions requesting changes in the Table be required to establish that such changes comply with minimum separations and other requirements and that the proposed assignment would protect the Grade A service of assignments in the Table based either on the maximum power at 500 feet for such assignments or the actual power and antenna height employed whichever is greater. Clearly, petitions for changes in the Table would have to indicate whether or not they have met the minimum assignment spacing requirements set out in the Rules and if they do not they would have to indicate the reasons for a change in these requirements. We do not, however, believe that the Commission should impose any requirement that persons seeking changes in the Table of Assignments shall have to establish that the proposed change would protect the Grade A service of assignments already made. We have above made clear that the Commission is not basing the Table of Assignments on any theory of protected contours.[50] In establishing the Table we have not provided for any protection to specific contours of existing stations in connection with the grant of individual applications. We have determined that the service areas of television stations and the degree of protection from interference will be determined by the minimum spacing requirements established herein.

207. The Houston Post Company has suggested that "in proposing changes in the Commission's Table of Assignments those areas which receive adjacent channel interference should be given the same consideration with respect to protection from co-channel interference as though the adjacent channel interference did not exist." This proposal must be rejected for the same reason set out above in connection with the disposition of the Earle C. Anthony proposal. Since the Commission has recognized no protected contours, it cannot include in its Rules the provisions proposed by the Houston Post Company.

208. The Tribune Company of Tampa, Florida, and Capital Broadcasting Company of Nashville, Tennessee, have both objected to the requirement that changes in the Table be preceded by rule making. Both of these parties based their objection on the allegation that the Assignment Table is based upon fragmentary propagation data and therefore ought to be as flexible as possible. We have in another part of this Report considered the nature of the propagation data upon which the Assignment Table is established. We recognize the extent to which additional propagation data is desirable. We cannot agree, however, that persons should be permitted to join petitions for rule making, which would propose in effect to change the propagation curves, as a result of propagation theory or data relating to specific areas, with applications for television stations in those areas. We believe the public interest requires that in such cases the parties be required to seek to amend the Rules in appropriate rule making proceedings before the Commission accepts for filing applications for channels.

Time Limitations on Changes in the Assignment Table

209. The Third Notice of Further Proposed Rule Making provided that:

> Upon adoption in the instant proceedings of the Table of Assignments, said Table shall not be subject to amendment on petition for a period of one year from the effective date of the Commission's final order amending said Table. Upon the expiration of said one year period the Commission will consider petitions filed during said period requesting changes in the Table.

210. The provisions that the Table of Assignments shall not be subject to amendment on petition for a period of one year from the effective date of the final order serves a two-fold purpose. First, it will permit the utilization of the Commission's limited personnel for the consideration and processing of the hundreds of applications for television stations which will be on file when processing of such applications commences. Prompt action upon these applications is clearly necessary and desirable in view of the duration of this proceeding since 1948 and the consequent freeze on the establishment of new stations. The second end to be served by this provision is that the the experience gained in the ensuing year in the consideration and processing of applications for new stations will be extremely valuable in the re-evaluation and reconsideration of the Table of Assignments adopted herein and in the disposition of such petitions requesting an amendment of the Table as will be considered after this period.

211. We believe, however, that some exceptions to this rule are appropriate. We will, during the one year period, accept petitions to amend the Table where they request the assignment of a channel to a community without any assignment in the Table and not eligible for an assignment under the 15 mile rule, the assignment of a noncommercial educational channel in any community to which no such assignment is available under the Table or where they request the assignment of a commercial channel to any community listed in the Table to which no commercial assignment has been made. No petition will, however, be entertained within the one year period where the petition proposes a change of any channel, whether by deletion, addition, or substitution or where the minimum assignment separations provided in the Rules would not be met by the proposed assignment. We find that no further rules concerning time limitations with respect to amendment of the Table need be established at this time.

212. Various objections have been made to time limitations on the filing of petitions for amendment of the Table of Assignments. We believe, however, that the time limitations herein adopted are reasonable exercise of the authority given to the Commission by Section 4(j) of the Communications Act to "conduct its proceedings in such manner as will best conduce to the proper dispatch of business and to the ends of justice." *WJR* v. *Federal Communications Commission*, 337 U.S. 265; *Pulitzer Pub. Co.* v. *Federal Communications Commission*, 94 F. 2d 249; *Ward* v. *Federal Communications Commission*. 108 F. 2d 486; *United Detroit Theatres Corp.* v. *Federal Communications Commission*, 178 F. 2d 700. Compare also Sections 1.363(a) and 1.387(b)(3) of the Commission's Rules and Regulations.

213. The Fort Industry Company in its comments has requested that the Commission review any educational reservations made in the Table of Assignments at intervals not in excess of six months and that the Commission require the filing by interested educational organizations of information concerning their progress in establishing non-commercial educational stations in the respective communities in which reservations have been made. As we pointed out earlier, the need for reservation of channels for educational purposes is predicated upon the fact that educational institutions require more time than commercial interests to formulate and implement plans and proposals for the establishment of television stations. Accordingly, a requirement that educational institutions within six months of the final decision and at six month intervals thereafter report their progress in attempting to establish a station is neither desirable nor necessary.

214. The setting aside of channels for non-commercial educational use is precisely the same type of reservation of channels as that provided by the Assignment Table for commercial stations in the various communities, and the two should be governed by the same rules. With respect to changes in the Table the Commission has provided for amendment of the Assignment Table by appropriate rule making proceedings in the Rules herein adopted. Such proceedings will be required for changing the assignment of a channel from one community to another and for changing the status of a channel reserved for non-commercial educational stations to a channel available for commercial applicants.[51]

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[49] The exceptions referred to in the Third Notice deal first with respect to applications which may be made for Channels 66-83. The principles which will govern the use of these channels have been discussed above. The other exception provided that a channel assigned to a community in the Table of Assignments shall be available, without the necessity of rule making proceedings, to any other community located within 15 miles of the assigned community provided minimum separations are maintained and there is no assignment in the Table for the community concerned. We have finalized this proposal.

[50] The Third Notice did propose to limit the antenna heights of stations based on protection of Grade A service of other stations operating at 500 feet with maximum power. We have, however, herein deleted this limitation on the use of high antenna heights.

[49] WTAG, Inc., Worcester, Mass. has proposed that amendments to the Table be permitted without rule making to make a channel assigned in the Table for a community available to another community which has no comparable assignment provided the minimum separations are maintained. The proposal is made apparently to make it possible for Worcester to receive a VHF assignment. The counterproposal of WTAG, Inc., seeking such an assignment for Worcester in this proceeding has been considered in another part of the Report. The instant proposal must be denied since it is inconsistent with the basic functions and purpose of the Assignment Table.

[51] Before a non-commercial educational station operating on a channel reserved for non-commercial use may apply for a license to permit it to operate commercially, it would by appropriate rule making proceedings be required to petition for a change in the character of the channel assignment involved. It will then have to file an application for a new license, in competition with any others who may seek the channel.

DIRECTIONAL ANTENNAS

215. In the Third Notice the Commission said with respect to Directional Antennas:[52]

There are two aspects to the questions which have been raised concerning the use of directional antennas. In the first place the Commission's rules, regulations and standards do not prohibit the use of directional antennas as such. If a channel is available in any particular community in the Commission's table, a directional antenna may be authorized upon an appropriate showing. Such authorizations have been granted in the past. It should be pointed out, however, that at the time of such grant a channel was available in the existing Assignment Table. The second aspect to the problem concerning directional antennas arises when a request is made that another channel be added in a community by means of a directional antenna. This situation differs from the first one because in this instance no channel assignment is possible unless a directional antenna is employed, that is, the use of a directional antenna is compulsory as a matter of channel assignment. This question was considered by the Commission in 1945 when the first Assignment Table was adopted. At that time the use of directional antennas as a basis for making assignments in the table was rejected by the Commission when a proposal to that effect was offered by the Television Broadcasters Association. In its report of November 21, 1945, the Commission stated, among other things:

"An examination of the T.B.A. proposal reveals that there are several disadvantages in attempting to accomplish this objective by the use of directional antennas. In the first place, the Commission desires to avoid as much as possible the resort to directional antennas for television. With the great increase in civil aviation as a result of the war, it is going to be increasingly difficult to find suitable antenna sites that do not constitute a hazard to air navigation. If directional antennas are used, there is much less flexibility in choosing antenna sites, thus increasing the possibility of conflict with air navigation requirements. Moreover, directional antennas will have to be located away from cities with the result that problems of shadows and multi-path distortion in rendering service to cities will be much greater than where the antenna is located in the city itself—in most instances antennas can be located in the city itself where no directional antenna is required.

"In the second place, the directional Antenna patterns proposed by T. B. A. result in many instances in highly artificial service areas with a good part of the station's signal strength being directed out to sea. Moreover, the service area of the stations using directional antennas would be no larger than that of a community station but such stations would be as expensive to construct and operate as metropolitan stations."

The Commission's proposed table of July 11, 1949, made no provision for the use of directional antennas except with respect to two existing stations. It was pointed out however, that directional transmitting antennas may be useful in certain situations in order that a particular site may be utilized or overall service improved. It was then concluded that directional transmitting antennas would be permitted in appropriate cases for use on channels contained in the Assignment Table, provided that this did not excuse compliance with the service area requirements or permit reduction of basic service areas. It was also indicated that nulls greater than —10 db (compared to the maximum value of radiation) may not be practicable because of reflections. During the hearings on the general issues, limited testimony was presented generally favoring the use of directional antennas principally for the purpose of improving service rather than reducing station separations. Some testimony was offered in favor of the use of directional antennas with nulls greater than —15 db.

The Commission is not satisfied that in the present state of the art, directional antennas are practicable with nulls greater than —10 db; the policy set forth in the Notice of July 11, 1949, is adhered to. If the future available data indicate that the performance of directional transmitting antennas can be properly predicted, particularly in areas where reflections occur, their use of interference protection can be given further consideration.

As indicated, directional antennas may be employed for improving service or for the purpose of using a particular site; they may not be used for the purpose of reducing the minimum station separations set forth in paragraphs II E and G. Where a directional antenna is proposed, the effective radiated power in any direction shall be contained in the range permitted in paragraphs II D (1) and (2), provided that the difference between maximum and minimum radiations shall not exceed 10 db.

216. The Pennsylvania Broadcasting Company objects to the above proposal because it prevents the assignment of Channel 12 to Philadelphia. They request that an exception be made in this one instance to permit the utilization of a directional antenna at Lancaster with a maximum suppression in excess of 10 db, thus providing protection to New York and Washington on Channel 4 and releasing Channel 12 for assignment to Philadelphia. In support of the Philadelphia Broadcasting Company's proposal, E. C. Page filed an engineering statement proposing that in general directional antennas should be allowed in congested areas whereby their use additional VHF channels could be assigned. The Easton Publishing Company also objects to the proposal. They cite previous testimony in the record to support a conclusion that a maximum suppression in excess of 10 db was feasible and that directional antennas were practical for interference protection. Radio Kentucky Inc. objects to the restrictions imposed on the use of VHF directional antennas because it restricts the use of the VHF. A. Earl Cullum Jr., states that previous testimony has proved that a 10 db suppression limitation is unrealistic and will stifle development of directional antennas. He contends that there is no reason why basic antenna patterns should be prohibited regardless of maximum-to-minimum suppression ratio. The Travelers Broadcasting Company advocates changing the Commission's proposal to authorize the assignment of television channels based upon the use of directional antennas in cities where the public interest, convenience and necessity will be served by the utilization of directional antennas. In a supporting engineering statement A. D. Ring & Company showed how a VHF channel could be assigned to Hartford utilizing a suppression ratio of only 2 db at Montpelier which is 172 miles from Hartford.

217. These comments to the Commission's proposal and the evidence in these proceedings raise the following questions: (1) Can directional antennas be constructed with suppression ratios greater than 10 db? (2) Are directional antennas with greater than 10 db suppression impractical in the field due to reflections? (3) Should directional antennas be used for assignment purposes to increase the number of VHF channels? (4) Should directional antennas be used to improve service only where an assignment has already been made in the Table?

218. On the basis of the testimony and the comments outlined above it appears that the record clearly supports the use of directional antennas where such use would result in improved coverage by a station whose assignments was not based upon the use of a directional antenna. But with regard to the use of directional antennas for decreasing mileage spacing to permit assignment of additional channels in the Table of Assignments there were mixed opinions.

219. On the question of the suppression ratio of directionals there seemed to be no doubt that directionals with greater than 10 db suppression could and had been designed and tested. But a main problem centered around the question of whether reflections would destroy the pattern of the directional antenna. All of the testimony relative to reflections was based upon scale model experiments or upon theoretical designs. Two witnesses indicated the possibility of the horizontal pattern being affected by tropospheric propagation which would be a function in part of the vertical directivity pattern. The scale model measurements took no account of this tropospheric reflection. It might appear from Mr. Alfred's and Mr. Godley's testimony that in any particular situation a particular type of antenna could be erected at a particular location to provide a given protection to a given area. There remained unanswered on the basis of the whole record the question of what would happen to the pattern with a given set of tropospheric conditions or by the erection of additional reflecting structures in the vicinity of the antenna. Testimony from expert witnesses recommended caution in establishing standards for directional antennas.

220. In view of the testimony in the whole record the Commission is unable to conclude that even under the most favorable circumstances where reflection tests were made in the field at the proposed antenna site, there would not still remain the problem of reflections from buildings and mountainous terrain. Furthermore such tests would necessarily have to be conducted over a long period of time to determine the tropospheric propagation under all conditions. Where directionals are proposed on the basis of theoretical design or field tests of scale models only, both the horizontal and vertical plane reflections remain unpredictable and in the opinion of the Commission render such proposals too uncertain for decreasing mileage separations so as to permit the assignment of additional channels based upon operation with a directional antenna.

221. Where the use of a directional antenna is solely to increase service the Commission is willing at this time to accept the 10 db ratio as a basis for such a directional antenna. It is clear that reducing the radiation below minus 10 db in the directions of minimum radiation would not appreciably increase the field strength or service range in the directions of maximum radiation. If a directional antenna is not able to operate as proposed service to the city or community can continue on the basis of non-directional operation. As for suppression ratios in excess of 10 db it is clear that as the nulls become deeper the direct signal in the null direction becomes weaker with reference to ghost signals from reflecting sources which are not exactly in the null direction. Consequently if excessively deep nulls are used, the quality of service may be degraded due to ghost images in addition to the accompanying reduction of service range in the null direction. Until we are assured that these problems will not exist the Commission is of the opinion that directional antennas with more than 10 db ratio should not be permitted even for the purpose of improving service in a community where an assignment has been made in the Table of Assignments based on non-directional operation.

222. The Federal Broadcasting System Inc. proposed that the Commission provide for the assignment of "satellite" or "booster" stations by means of the use of directional antennas. The purpose of the proposal would be to allow parties not financially interested in the dominant station to erect and operate a low power television rebroadcast station at a high point

[52] In the Third Notice a directional antenna was defined as one having 3 db or more difference in effective radiated power in the azimuthal directions of minimum and maximum radiation. Upon further consideration of the matter the Commission has determined that, pending the acquisition of additional data on the subject, the Commission will consider television antennas designed to have a nominally circular azimuthal radiation pattern to be non-directional unless the pattern is deliberately altered to produce a non-circular radiation pattern. Antennas designed or altered to have a non-circular radiation pattern will be considered directional antennas.

above communities situated in valleys otherwise out of range of the dominant station.

223. The assignment plan contemplates the use of stations so removed from each other as to serve the greatest number of areas and persons and to keep the areas of interference between stations to a minimum. The indiscriminate use of "booster" or "satellite" stations in cities other than shown in the assignment Table would defeat the aims of the plan. The Commission is of the opinion, however, that there may exist special cases where the carefully controlled utilization of such stations may be beneficial to the plan. However, in view of the absence of adequate data in this record, the Federal Broadcasting System proposal must be denied.

224. In view of the foregoing considerations and the considerations discussed in the Third Notice, it is our conclusion that:

(1) Directional antennas may not be used for the purpose of reducing the minimum mileage separation requirements.
(2) Directional antennas with a ratio of minimum to maximum radiation in the horizontal plane of more than 10 decibels will not be permitted.
(3) The minimum effective radiated power in any horizontal direction shall meet the minimum power requirements of the Commission's Rules.
(4) The effective radiated power in any horizontal or vertical direction may not exceed the maximum values permitted by the Commission's Rules.
(5) The maximum effective radiated power in any direction above the horizon shall be as low as the state of the art permits and may not exceed the effective radiated power in the horizontal direction in the same vertical plane.

STRATOVISION OR POLYCASTING

225. The Third Notice stated with respect to stratovision:

> The Commission's proposed table of July 11, 1949 did not provide channels for stations operating in accordance with the stratovision method of television broadcasting utilizing airborne transmitters. The Commission afforded interested persons an opportunity of presenting evidence on this point. Only one party presented evidence in support of stratovision. From the evidence offered it appears that five UHF channels would supply about 81 percent of the area of the United States with one signal. Two of the five channels would be used as guard bands. Consequently, in order to supply all areas of the United States with 4 services about 20 channels would be required. This figure does not include the channels which would have to be added in order to provide proper protection between stratovision stations and ground stations in the light of the separations required to avoid oscillator radiation image interference, or I. F. beats. The studies presented at the hearing did not include these factors.
>
> The Commission appreciates that stratovision, if feasible, would be a most useful instrument in providing service to the sparsely settled areas of the country. Indeed, many areas of the country can undoubtedly receive service only from wide area coverage stations, such as stratovision would provide. The Commission, however, does not believe that channels should be assigned to stratovision at this time. As can be seen from an examination of Appendix C, it is not possible to assign television channels to many important communities and other communities have an inadequate number of assignments. This situation occurs when relatively close separations are utilized based upon ground-located transmitters. With the much wider separations that air-borne transmitters would require, the problem of providing a fair, efficient, and equitable allocation of television facilities to the various communities would be aggravated. The demands for television service require that all available channels be assigned for proven ground-station operations, particularly when no substantial demand was shown for air-borne transmitters. However, as indicated above proposed Channels 66 through 83 have not been assigned to particular communities but are flexibility channels, which may be used for various purposes, including further stratovision experimentation. The door remains open for further consideration of this proposal by the Commission if it can be shown that stratovision can operate successfully within the above flexibility channels, without causing interference to ground-based stations operating on Channels 14 through 65.

226. The Third Notice stated with respect to Polycasting:

> Evidence in support of this proposal was presented by one witness who advocated the principle of using a number of low-power transmitters on one or more channels in the UHF band instead of attempting to cover a large area with a centrally located high-power transmitter. He expressed the belief that his proposed system would result in improved service at lower cost and was the only feasible method whereby stations in the UHF band could serve large areas. It was contemplated, for example, that four transmitters could be located in as many directions to give service to a large city with the north and south transmitters operating on one frequency and east and west transmitters operating on another frequency; by using directional receiving antennas and taking advantage of the wide variations in signal intensity over a small area there would be adequate rejection of the undersired co-channel signal. The use of FM was favored for polycasting to improve the ability to reject the undesired signal.
>
> No evidence was presented concerning previous or existing operations carried on in accordance with the above proposals and the Commission has no information that such operations have been conducted. It appears that the proposed system has never been field tested and hence an adequate determination as to its feasibility cannot be reached at the present time. To devise an assignment table at this time which would provide for polycasting in many areas would be impractical and unwarranted since such an undertaking would require prior knowledge of the number, location and power of the various stations in a city. Further, it would involve consideration of possible interference such as oscillator radiation, image interference and intermodulation not only between stations in a city but between stations in adjacent areas. Accordingly, the attached proposed table does not contain assignments of channels for stations to operate under the polycasting system on a commercial basis. Further experimentation concerning polycasting can be carried on in the flexibility channels.

227. No specific comments directed to the subject of polycasting or stratovision were received in response to the Third Notice. Accordingly, the Commission's proposal not to make an allocation or assignment for stratovision or polycasting is now made final.

228. The Commission stated in the Third Notice that experimentation could be carried on with respect to stratovision and polycasting in the 782-890 Mc. band. We have in another portion of this Report considered the use of the channels in this band. It appears that the demand for these channels will be very great and that the extent to which they may be used in any one area is severely limited considering the demand that probably will exist. The Commission will consider requests for experimentation with respect to stratovision or polycasting in the 782-890 Mc. band. It seems clear, however, that in certain areas of the country, for example, the New England area, it will be impossible to establish a regular stratovision or polycasting service in this band. According, all persons interested in stratovision or polycasting are urged to give consideration to the demand for these television channels in making plans for further experimentation with these forms of broadcasting.

INTERNATIONAL CONSIDERATIONS

229. In establishing a Table of Assignments for the United States, consideration must be given to the patent fact that television signals do not respect international boundaries. Accordingly, neither the United States, Canada, nor Mexico can assign television channels as if these countries are isolated entities. If each country were to exercise its sovereign authority to assign television channels from the radio spectrum without regard to the interests of its neighboring countries, all the countries would suffer. For, while viewers in certain sectors of each country would not be directly affected by such action, those residing in the border areas might, as a consequence of the unrestricted interference that would doubtless ensue, be totally deprived of television service. The urgent necessity for an understanding between the United States and Canada, and the United States and Mexico, relating to the employment of television channels along our mutual borders is therefore manifest. Such agreements provide the only means for the effectuation of a fair, efficient and equitable distribution of television channels among the United States, Canada and Mexico.

230. In recognition of the foregoing, the Commission set forth in Appendix D of the Third Notice certain assignments for Canada and Mexico which might be made on the same basis as the overall Table if the borders between the countries did not exist.[52] It was pointed out that a series of conferences had been held with representatives of the Canadian and Mexican Governments, but that formal agreements had not at that time been entered into. It was noted, however, that views were being exchanged and that it was expected satisfactory understandings would be reached.[54]

231. In assigning television channels, Canada, Mexico and the United States, all employ somewhat different assignment policies in order to satisfy the viewpoints and interests of the respective countries. It is apparent, therefore, that in effectuating international agreements, the assignment policies employed in relation to domestic assignments could not be utilized in all instances. For example, Mexico, as a matter of allocation policy, is not employing channels in the UHF portion of the spectrum for television. Similarly, assignment separations must be maintained between some cities in the United States and Canada, and the United States and Mexico, above the minimum separation requirements for the pertinent zones in the United States. However, these across the border separations are necessary in order to comply with the internal requirements of Canada and Mexico and in light of the necessity for reaching an understanding with Canada and Mexico. Accordingly, while in some instances assignments proposed by the parties could have been accomplished in conformity with minimum separations for the appropriate United States zone, such proposals have not been adopted herein where they were deemed insufficient by Canada and Mexico and an agreement with respect to the proposed assignments could not therefore be reached. It

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[52] Appendix D contained both VHF and UHF assignments for Canada but only VHF assignments for Mexico. Since Mexico does not in the foreseeable future contemplate employing channels in the UHF portion of the spectrum for television, rapport with respect to the assignment of UHF channels along the Mexican-United States border is not necessary at this time.

[54] The Third Notice also proposed to change the frequency assignments of the following existing stations in an effort to arrive at an equitable distribution of television channels between the United States and Canada:

Station	City	Present Channel	Proposed Channel
WXEL	Cleveland, Ohio	9	8
WHAM-TV	Rochester, N.Y.	6	5
WSYR-TV	Syracuse, N.Y.	5	3

As is explained more fully elsewhere in this Report, no objections to these proposed channel shifts have been raised by the stations involved.

should be pointed out that Canada, as a matter of domestic policy, desires service created by large station separations and desires to protect fringe area service to achieve maximum service from each operating station.

232. Comments filed in this proceeding with respect to specific city-by-city channel assignments were submitted in light of the international considerations described in the Third Notice. After the filing of such comments, further conferences and negotiations were conducted with Canada and Mexico. Each comment affected by international considerations[55] has been carefully considered by the Commission. Furthermore, each such comment which in the judgment of the Commission should not be denied for purely domestic reasons has been taken into account in the conferences and negotiations with Canada and Mexico held since the issuance of the Third Notice. As a result of such further conferences and negotiations, an Agreement has been entered into with Mexico concerning, among other things, the channel assignments for communities in the border areas of the respective countries.[56] With Canada, complete agreement has been arrived at between the administrative authorities concerned though formal confirmation by governments has not yet been given.

233. The channel assignments worked out in negotiations with Canada and Mexico with respect to communities in the border areas have been reflected in the Assignment Table adopted herein. The conferences and negotiations with Canada and Mexico have been carried on over a period of years. Such conferences and negotiations were conducted under the auspices of the State Department with the continued technical advice and assistance of this Commission. Moreover, as noted above, the comments filed in this proceeding have been taken into account in the course of these conferences and negotiations. We believe that the channel assignments prescribed in the Mexican Agreement and those which will be prescribed in the proposed agreement with Canada reflect the best assignments for the border areas that may be established in light of the problems presented. Accordingly, we believe that the distribution of assignments made thereunder should be followed pursuant to our duty to distribute service to the people of the United States in accordance with the public interest.

CANADIAN-UNITED STATES TELEVISION ASSIGNMENTS

234. As pointed out above, the administrative authorities of the United States and Canada have agreed on the channel assignments to be prescribed for communities within 250 miles of the Canadian-United States border.

235. In the conferences and negotiations conducted with Canada, agreement for the assignment of all channels requested by counterproposals filed in this proceeding could not be reached for the reasons set forth above. We have made no assignments herein requested in any counterproposal where such assignments would be inconsistent with and in violation of the terms which have been agreed upon for inclusion in the proposed agreement with Canada. Following is a list of those counterproposals which are denied in light of the proposed agreement. Certain of these counterproposals, as is noted elsewhere in this Report, must also be denied for domestic reasons:

Party	Counterproposal	Separations and assignments concerning which agreement with Canada could not be reached
The Brockway Co., Watertown, N. Y. (1)	Add Channel 11 to Watertown, N. Y. by substituting Channel 5 for Channel 11 in Ottawa-Hull, Ont., Canada.	Channel 11 at Watertown would be 174 miles from the co-channel assignment at Toronto; and Channel 5 at Ottawa-Hull would be 179 miles from the co-channel assignment at Rochester.
The Brockway Company, Watertown, N. Y. (2)	Add Channel 11 to Watertown, N. Y. by substituting Channel 7 for Channel 11 in Ottawa-Hull, Ont., Canada; Channel 8 for Channel 7 in Montreal-Verdun, Que., Canada; Channel 11 for Channel 13 in Hamilton, Ont., Canada; and Channel 13 for Channel 11 in Toronto, Ont., Canada.	Channel 8 in Montreal-Verdun would be 195 miles from the co-channel assignment in Lewiston, Maine. Channel 8 in Montreal-Verdun would also create an oscillator radiation problem since Channel 12 is assigned to that community. Channel 13 at Toronto would be 187 miles from the co-channel assignment at Pembroke, Ont. Channel 13 at Toronto would also create an oscillator radiation problem since Channel 9 is assigned to that community. Channel 11 at Hamilton would be 72 miles from the adjacent channel assignment (10) in London, Ont.
WAGE, Inc., Syracuse, N. Y.	Add Channel 11 to Syracuse, N. Y. and Channel 11 to Pembroke, Ont., Canada, by substituting Channel 11 for Channel 13 in Hamilton, Ont., Canada; Channel 13 for Channel 11 in Toronto, Ont., Canada; and Channel 5 for Channel 11 in Ottawa-Hull, Ont., Canada.	Channel 11 at Syracuse would be 188 miles from the co-channel assignment suggested for Hamilton, Ont., Canada. Channel 11 at Hamilton, as suggested, would be 72 miles from the adjacent channel assignment (10) at London, Ont., Canada. Channel 13 at Toronto would be 187 miles from the co-channel assignment at Pembroke, Ont., Canada. Channel 13 at Toronto would also create an oscillator radiation problem since Channel 9 is assigned to that community. Channel 5 in Ottawa - Hull as suggested would be 183 miles from the co - channel assignment in Rochester, N. Y., Channel 11 at Pembroke would be 187 miles from the co-channel assignment in Toronto.
Corning Leader, Inc., Corning, New York	Assign Channel 9 to Corning, N. Y.	Channel 9 at Corning would be 159 miles from the co-channel assignment at Toronto.
Buffalo Courier Express, Inc., WGR Broadcasting Corp., and WKBW, Inc., Buffalo, New York	Add Channel 9 to Buffalo, N. Y. by substituting Channel 8 for Channel 9 in Toronto, Ont., Canada; Channel 3 for Channel 8 in Owen Sound, Ont., Canada; and Channel 12 for Channel 3 in Orillia, Ont., Canada.	Channel 8 in Toronto would be 169 miles from the co-channel assignment at Syracuse, N. Y. Channel 8 in Toronto would be 59 miles from the adjacent channel assignment (9) as suggested for Buffalo. Channel 12 in Orillia would be 177 miles from that assignment listed in the Third Notice for Erie, Pa. Channel 12 in Orillia would be 65 miles from the adjacent channel assignment (11) in Toronto.
WBVP, Inc. Beaver Falls, Pa.	Add Channel 16 to Beaver Falls, Pa.	Channel 16 at Beaver Falls would be 168 miles from the co-channel assignment at Brantford, Ont., Canada.
The Trebit Corporation, Flint, Mich.	Add Channel 10 to Flint, Mich. by substituting UHF Channels 43 and 65 for VHF Channel 10 in London, Ont., Canada.	Deletion of VHF Channel 10 from London. Channel 10 at Flint would be 61 miles from the adjacent channel assignment (Channel 9) in Windsor, Ont. Channel 43 at New London would be 163 miles from the co-channel assignment at Butler, Pa.
Michigan State College, East Lansing, Mich.	Add Channel 10 to East Lansing, Mich.	Channel 10 at East Lansing would be 164 miles from the co-channel assignment listed in the Third Notice for London, Ont., Canada.
Booth Radio and Television Stations, Inc., Detroit, Mich.	(In part) Add Channel 9 to Detroit, Mich. by substituting UHF Channel 50 for VHF Channel 9 in Windsor, Ont., Canada, and deleting Channel 50 from Detroit.	Deletion of VHF Channel 9 from Windsor, Ont., Canada.
WJR, Inc., Detroit, Mich. (1)	Add Channel 6 to Detroit, Mich., by substituting Channel 10 in Lansing, Mich., for Channel 6.	Channel 10 in Lansing would be 169 miles from the co-channel assignment in London, Ont., Canada. Channel 6 at Detroit would be 205 miles from the co-channel assignment at Toronto, Ont., Canada.
(2)	Add Channel 22 to Detroit, Mich., by substituting Channel 18 for Channel 60 in East Lansing, Mich.; Channel 46 for Channel 22 in Flint, Mich.; Channel 60 for Channel 18 in Ludington, Mich.; and Channel 37 for Channel 45 in Cadillac, Mich.	Channel 18 in East Lansing, Mich., would be 164 miles from the co-channel assignment in London, Ont., Canada. Channel 46 at Flint would be 6 miles from the assignment of Channel 32 at Windsor, Ont., Canada.
Central Willamette Broadcasting Company, Albany, Oregon.	Add Channel 4 to Albany, Ore.; Channel 11 to Eugene, Ore.; Channel 3 to Longview, Wash.; Channel 12 to Bellingham, Wash.; and Channels 2 and 6 to Seattle, Wash., by deleting channel 5 from Seattle and Channel 12 from Chilliwack, B. C., Canada, and by substituting Channel 8 for Channel 4 in Medford, Ore., Channel 10 for Channel 11 in Yreka, Calif.; Channel 2 for Channel 3 in Salem, Ore., Channel 5 for Channel 6 in Portland, Ore.; Channel 5 for Channel 2 in Victoria, B. C., Canada; and Channel 3 for Channel 6 in Vancouver, B. C. Canada. Central Willamette suggested that Channel 12 could be replaced in Chilliwack by assigning Channel 3 to that community in place of Vancouver, or by assigning an additional UHF channel to Chilliwack.	Channel 5 in Victoria would be 200 miles from the suggested co-channel assignment in Portland. Channel 3 at Vancouver would be 212 miles from the co-channel assignment suggested for Longview. Channel 5 at Victoria would be 75 miles from the suggested adjacent channel assignment (6) at Seattle. Deletion of Channel 12 from Chilliwack.

[55] Domestic assignments are considered to be affected by Mexican or Canadian assignments when they are 250 miles from the border. Similarly, Mexican and Canadian assignments are deemed to be affected by United States assignments when they are 250 miles from the United States.

[56] An exchange of diplomatic notes between Mexico and the United States was announced by the State Department on Oct. 26, 1951. On November 7, 1951, the Commission issued a Notice in this proceeding (FCC 51-1109) pointing out that it would accept new comments and evidence from parties who had theretofore filed comments if such new proposals were made solely as a result of the changes brought about by the Agreement with Mexico and if such new counterproposals were consistent with the Agreement. In light of such further comments and evidence together with all the other comments and evidence in the record, further negotiations were conducted with Mexico resulting in certain additions and modifications to the Agreement, but not inconsistent with the basic provisions of the Agreement. These additions and modifications were agreed to on Feb. 4, 1952, and will be formalized by an exchange of diplomatic notes.

Party	Counterproposal	Separations and assignments concerning which agreement with Canada could not be reached
Twin City Broadcasting Corp., Longview, Wash. (1)	Add Channel 2 to Longview, Wash.	Channel 2 at Longview would be 158 miles from the co-channel assignment at Victoria, B. C., Canada.
(2)	Add Channel 2 to Longview, Wash., by substituting Channel 6, 8 or 10 in Victoria, B. C., Canada; for Channel 2; and Channel 2 in Vancouver-New Westminster, B. C., Canada for Channel 6, 8 or 10.	The conflicting counterproposal of KVOS, Inc., assigning Channel 12 to Bellingham, Wash., is being granted. This counterproposal assigns Channel 3 to Chilliwack, B. C., in place of Channel 12. Channel 3 in Chilliwack would be 47 miles from New Westminster and 58 miles from Vancouver where adjacent Channel 2 is proposed by Twin City.
Fisher's Blend Stations, Inc., Seattle, Wash. (1) and Totem Broadcasters, Inc., Seattle, Wash.	Add Channel 2 to Seattle, Wash., by substituting Channel 3 for Channel 2 in Victoria, B. C. Can.	The conflicting counterproposal of KVOS, Inc., assigning Channel 12 to Bellingham, Wash., is being granted. This counterproposal assigns Channel 3 to Chilliwack, B. C., in place of Channel 12. Channel 3 in Chilliwack would be 81 miles from Victoria, B. C., where Fisher's Blend Stations, Inc., and Totem Broadcasters, Inc., would assign Channel 3.
Fisher's Blend Stations, Inc., (2)	Add Channel 2 to Seattle, Wash., by substituting Channel 12 for Channel 2 in Victoria, B. C., Can.; and Channel 3 for Channel 12 in Chilliwack, B. C., Canada.	The conflicting counterproposal of KVOS, Inc., assigning Channel 12 to Bellingham, Wash., is being granted. Channel 12 at Bellingham would be 48 miles from Channel 12 in Victoria as proposed by Fisher's Blend.
Allen B. DuMont Laboratories, Inc.	Nationwide Allocation Plan.	The DuMont plan differs in numerous aspects from the assignments prescribed in the tentative agreement.

236. The following list sets forth those counterproposals requesting changes in channel assignments for cities within 250 miles of Canada which, pursuant to the negotiations with Canada, were tentatively agreed upon by Canada and are being granted herein. The channel assignments sought in these counterproposals are reflected in the proposed agreement:

Party	City	Counterproposal
Dartmouth College	Hanover, N. H.	Add Channel 21 to Hanover, N. H., to be reserved for non-commercial educational use, by substituting Channel 51 in Rochester, N. H.
Hartford Times, Inc. and Travelers Broadcasting Service Corp.	Hartford, Conn.	(As modified) Add Channel 3 to Hartford, by substituting Channel 81 in New London for Channel 3.
Connecticut State Board of Education	Norwich, Storrs, Bridgeport and New London, Conn.	(As modified) Add Channel 63 to Norwich and Channel 71 to Bridgeport, both to be reserved for non-commercial educational use, by deleting Channel 26 from Storrs, deleting Channel 63 from New London, and assigning Channel 26 to New London.
Troy Broadcasting Co. Inc., and Meredith Champlain Television Corp.	Troy, New York Schenectady, N. Y.	(As modified) Add Channel 41 to Albany-Schenectady-Troy, N. Y.; add Channel 35 to Schenectady; substitute Channel 48 for Channel 35 in Watertown, N. Y.; and substitute Channel 62 for Channel 48 in Oneonta, New York.
Kingston Broadcasting Corporation	Kingston, N. Y.	Add Channel 66 to Kingston.
Board of Regents of the University of the State of New York	Malone, New York Poughkeepsie, N. Y.	Add Channel 66 to Malone, and Channel 83 to Poughkeepsie, N.Y., both to be reserved for non-commercial educational use.
Gable Broadcasting Company	Altoona, Pa.	(As modified) Add Channel 10 to Altoona, Pa.
Lock Haven Broadcasting Corporation	Lock Haven, Pa.	Add Channel 32 to Lock Haven, Pennsylvania.
Vindicator Printing Company	Youngstown, Ohio	Add Channel 73 to Youngstown, Ohio.
Cleveland Broadcasting Co., Inc. *et al.*	Cleveland, Ohio	(In part) Add Channel 65 to Cleveland, Ohio, by substituting Channel 42 for Channel 59 in Sandusky, Ohio.
WSTV, Inc.	Steubenville, Ohio	(As modified) Assign Channels 7, 9 and 51 to Wheeling, West Virginia-Steubenville, Ohio, instead of Channel 51 to Steubenville and Channels 7 and 9 to Wheeling. (Channel *57 remains assigned to Wheeling.)
WSAZ, Inc.	Huntington, W. Va.	Substitute Channel 3 for Channel 8 in Huntington and Channel 8 for Channel 3 in Charleston, West Virginia.
Shenandoah Valley Broadcasting Corp.	Harrisonburg, Virginia	Add Channel 3 to Harrisonburg, Va., by substituting Channel 12 for Channel 3 in Richmond, Va.; Channel 3 for Channel 12 in Norfolk-Portsmouth-Newport News, Va.; Channel 8 for Channel 3 in Charleston, W. Va.; and Channel 3 for Channel 8 in Huntington, W. Va.
Copper Broadcast Company	Butte, Montana	Add Channel 15 to Butte, Montana.
Green Bay Newspaper Co.	Green Bay, Wisconsin	Add Channel 2 to Green Bay, Wisconsin.
Radio Indianapolis, Inc.	Indianapolis, Indiana	Add Channel 67 to Indianapolis, Indiana.
Ball State Teachers College	Muncie, Indiana	Add Channel 71 in Muncie, Ind. to be reserved for non-commercial educational use.
Board of School Trustees of Gary, Indiana	Gary, Indiana	Add Channel 66 in Gary, Ind., to be reserved for non-commercial educational use.
Twin Valley Broadcasters, Inc.	Coldwater, Michigan	(In part) Add Channel 24 to Coldwater, Michigan.
Bay Broadcasting Company	Bay City, Michigan	Add Channel 5 to Bay City, Mich., by substituting Channel 7 for Channel 5 in Traverse City, Michigan.
Board of Education of Bay City, Michigan	Bay City, Michigan	Add Channel 73 to Bay City, Michigan, to be reserved for non-commercial educational use.
Delta Broadcasting Company	Escanaba, Michigan	(As modified) Substitute Channel 3 for Channel 13 in Escanaba, Mich.; add Channel 13 to both Calumet and Cadillac, Mich.; add Channel 2 to Green Bay, Wisc.; substitute Channel 10 for Channel 5 in Hancock, Michigan; Channel 5 for Channel 3 in Marquette, Mich.; and Channel 7 for Channel 5 in Traverse City.
Wisconsin State Radio Council	(Wisconsin)	Add Channel 30 to Shell Lake, Wisc.; Channel 18 to Park Falls, Wisc.; Channel 46 to Wausau, Wisc.; Channel 58 to Adams, Wisc.; Channel 24 to Chilton, Wisc.; and Channel 66 to Richland Center, Wisc.; all to be reserved for non-commercial educational use.
Buffalo Courier Express, Inc., WGR Broadcasting Corp. and WKBW Inc.	Buffalo, N. Y.	(As modified) Assign Channels 2, 4, 7, and 59 to Buffalo-Niagara Falls, instead of Channel 2 to Niagara Falls and Channels 4 and 7 to Buffalo. (Channels 17 and *23 remain assigned to Buffalo).
New Jersey Board of Education	Montclair, N. J. Andover, N. J.	Add Channel 77 to Montclair, N. J. and Channel 69 to Andover, N. J., to be reserved for non-commercial educational use.
State Superintendent of Public Instruction for the State of Wash.	(Washington State)	Add Channel 65 to Ellensburg, Wash.; Channel 41 to Kenniwick - Richland - Pasco, Wash.; Channel 35 to Omak-Okanogan, Wash.; Channel 22 to Walla Walla, Wash.; Channel 45 to Wenatchee, Wash.; and Channel 47 to Yakima, Wash., all to be reserved for non-commercial educational use.
KVOS, Inc.	Bellingham, Wash.	Add Channel 12 to Bellingham, Wash., by substituting Channel 3 for Channel 12 in Chilliwack, B. C., Canada.
Presque Isle Broadcasting Company	Erie, Pa.	(In part) Add Channel 66
Patriot News Company	Harrisburg, Pa.	Add Channel 71.
The Scranton Times	Scranton, Pa.	Add Channel 73.
The following additional assignments to cities within 250 miles of the Canadian-United States border have been made:	Cincinnati, Ohio	Add Channel 74.
	Pittsburgh, Pa.	Add Channel 16.
	Bad Axe, Mich.	Substitute Channel 15 for Channel 46.

MEXICAN-UNITED STATES TELEVISION ASSIGNMENTS

237. As pointed out above, an Agreement has been entered into with Mexico prescribing the channel assignments for communities within 250 miles of the Mexican-United States border.

238. The following list sets forth those counterproposals originally filed in this proceeding requesting changes in VHF channel assignments within 250 miles of the Mexican border and therefore affected by the Mexican-United States Television Agreement, announced October 26, 1951:

Party	City	VHF Counterproposals Affecting Mexico
Bell Broadcasting Company	Temple, Texas	Add Channel 6 to Temple, Texas.
Harbenito Broadcasting Co., Inc.	Harlingen, Texas	Move Channel 4 from Brownsville, to Harlingen, Texas.
McAllen Television Corporation	McAllen, Texas	Move Channel 5 from Brownsville to McAllen, Tex. and substitute Channel 12 in Brownsville.
Taylor Radio & Television Corporation	Weslaco, Texas	Move Channel 4 and 5 from Brownsville to Weslaco-Harlingen, Texas.
Plains Radio Corp.	Lubbock, Texas	Move Channel 5 from Amarillo, Texas to Lubbock, Texas and substitute Channel 9 in Monahans, Tex. for Channel 5.
Lack's Stores, Inc.	Victoria, Texas	Move Channel 12 from San Antonio, to Victoria, Tex.
New Mexico State Dept. of Education	Silver City, New Mexico	(As modified) Add Channel 10.
Airfan Radio Corp., Ltd.	San Diego, California	Add either Channel 6 or 12 to San Diego, California by deleting Channel 6 or 12 from Tijuana, Mexico.
Charles E. Salik	San Diego, California	Add Channel 6 or 12 to San Diego, California by deleting Channel 6 or 12 from Tijuana.
Radio KIST, Inc.	San Diego, California	Add Channel 8 to Santa Barbara, California.
Paul R. Bartlett and Gene DeYoung	Bakersfield, Calif.	Add Channel 8 to Bakersfield, California.
McClatchy Broadcasting Co.	Bakersfield, Calif.	Add Channel 8 to Bakersfield, California.
McClatchy Broadcasting Co.	Fresno, Calif.	Add Channels 5, 7 and 9 to Fresno by substituting Channel 12 for 13 in Las Vegas, Nevada, and other changes.
American Broadcasting Co., Inc.	Yuma, Arizona	Substitute Channel 12 in Mexicali, Mexico for Channels 7 and 9 and substitute Channels 9 and 47 in Yuma, Arizona for Channels 11 and 13.
Allen B. DuMont Laboratories, Inc.		Nationwide Plan.

239. Subsequent to the filing of the above counterproposals, further conferences and negotiations were conducted with Mexico. Each of the above counterproposals which did not require denial for purely domestic reasons was taken into account in these discussions with Mexico. Thereafter, the Department of State announced on October 26, 1951, that an Agreement had been concluded by an exchange of diplomatic notes between Mexico and the United States formalizing the assignment of VHF channels to communities within 250 miles of the Mexican-United States border. The assignments prescribed by that Agreement were identical with those listed in Appendices C and D of the Third Notice with several express exceptions set out below. The total number of VHF channels assigned to each community involved remained the same with the exception that an additional channel was provided for Tucson, Ariz. and one less channel for San Diego, California[57] in the United States, and an additional channel was provided for Reynosa and Hermosillo and one less channel for Mexicali and Monterrey, in Mexico. The changes in VHF assignments from those expressed in the Third Notice were as follows:

City	Third Notice	Mexican Agreement Announced Oct. 26, 1951
Flagstaff, Arizona	9,11	9,13
Phoenix, Arizona	4,5,8,10	3,5,8,10
Tucson, Arizona	2,6,7	4,6,9,13
San Diego, Calif.	3,8,10	8,10
El Paso, Texas	2,4,5,7	4,7,9,13
Laredo, Texas	3,8	8,13
Mexicali, Mexico	7,9	3
Nogales, Mexico	9,11,13	2,7,11
Hermosillo, Mexico	2,4,6	6,8,10,12
Ciudad Juarez, Mexico	9,11,13	2,5,11
Monterrey, Mexico	2,6,10,12	2,6,10
Nuevo Laredo, Mexico	11,13	3,11
Reynosa, Mexico	9	9,12

[57] It should be understood that the number of VHF channels available for assignment in the San Diego area is governed to a considerable degree by the number of assignments in Los Angeles. Since there are only 12 VHF channels, the assignment of 7 VHF channels to Los Angeles, where 7 stations are now operating, leaves only 5 remaining channels for the border area in southern California, which includes San Diego in the United States and Tijuana and Mexicali in Mexico. The 7 VHF channels employed in Los Angeles cannot also be assigned to San Diego, Mexicali, or Tijuana without undesirably limiting the coverage of United States as well as Mexican stations. The Los Angeles assignments must, therefore, be considered in connection with the United States assignments in the border area. Seven VHF channels are assigned to Los Angeles, 2 VHF channels to San Diego, 2 VHF channels to Tijuana, and 1 VHF channel to Mexicali. Thus, it will be seen that of the 12 VHF channels available for assignment in the border area, 9 are assigned to communities in the United States and 3 to Mexican cities.

240. Since the channel assignments prescribed in the Mexican Agreement announced October 26, 1951, differed in some instances from the Third Notice, the Commission, on November 7, 1951, issued a Notice (FCC 51-1109) stating that it would accept new comments and evidence from parties who had theretofore filed proper comments in the proceedings if such new comments and evidence were submitted solely as a result of the changes brought about by the Mexican Agreement and were consistent with the Agreement.

241. Pursuant to the above Notice, Plains Radio Broadcasting Company, Lubbock, Texas; Lack's Stores, Inc., Victoria, Texas; Taylor Radio and Television Corporation, Weslaco, Texas; and McClatchy Broadcasting Company, Bakersfield and Fresno, California, filed statements contending that their counterproposals filed in this proceeding seeking additional VHF channels for their respective communities were consistent with the Mexican Agreement. Charles E. Salik and Airfan Radio Corporation, Ltd., both of San Diego, California, filed statements advising that further pleadings in light of the Mexican Agreement would not be submitted. Finally, Allen B. DuMont Laboratories, Inc., filed a modification to its nationwide assignment plan suggesting, among other things, that Channels 2 and 5 be assigned to Mexicali, Mexico in place of Channel 3, and that Channel 3 be assigned as an additional channel to San Diego.

242. On December 11, 1951, Radio KIST, Inc., Santa Barbara, California, filed a petition for leave to file further comments and evidence in the proceeding requesting, as an alternative to its previous counterproposal, that Channel 3 be assigned to Santa Barbara. The Commission granted this petition by Order (FCC 52-28) of January 9, 1952, and accepted the new Radio KIST, Inc. counterproposal in this proceeding. This new counterproposal requested the following:

City	Third Notice VHF Channel No.	Third Notice UHF Channel No.	Proposed Changes VHF Channel No.	Proposed Changes UHF Channel No.
Santa Barbara, Calif.		20,26	3†[58]	20, 26
Visalia, Calif.	3		†	43†,49†

[58] A proposal for the deletion, substitution, or addition of a channel is indicated in the Report by (†).

243. The following list sets forth those counterproposals which, although affected by the Mexican Agreement, must be denied for purely domestic reasons, as is set out elsewhere in this Report:

Bell Broadcasting Company, Temple, Texas
Lack's Stores, Inc., Victoria, Texas
Radio KIST, Inc., Santa Barbara, California (Channel 8)
McClatchy Broadcasting Company, Bakersfield and Fresno, Calif.
Paul R. Bartlett and Gene DeYoung, Bakersfield, California; Harbenito Broadcasting Co. Inc., Harlingen, Texas; Taylor Radio & Television Corp., Weslaco, Texas (counterproposals granted in part only).

244. All of the counterproposals affected by the Mexican-United States Agreement which in the Commission's judgment should not be denied for domestic reasons alone, including those counterproposals filed pursuant to the Notice of November 7, 1951, were taken into consideration in connection with further negotiations with Mexico. As a result of such negotiations, certain additions and modifications in the Mexican-United States Television Agreement were agreed to on February 4, 1952. These additions and changes made possible the granting of several counterproposals.

245. The following list sets forth those counterproposals affected by the Mexican Agreement which are being granted herein, and the channel assignments requested thereby are reflected in the Agreement, as modified:

Plains Radio & Television Corporation, Lubbock, Texas
Radio KIST, Inc., Santa Barbara, Calif. (Channel 3)
Harbenito Broadcasting Co., Inc., Harlingen, Texas; Taylor Radio & Television Corporation, Weslaco, Tex. (Granted in Part)
New Mexico State Dept. of Education, Silver City, N. Mexico (As modified)

246. The following list sets forth those counterproposals which must be denied in light of the Mexican-United States Agreement and subsequent conferences and negotiations conducted with Mexico. The assignment of channels requested in these counterproposals would be inconsistent with and in violation of the Mexican Agreement as modified. As is pointed out elsewhere in this Report, two of the counterproposals discussed below must also be denied for domestic reasons:

Airfan Radio Corporation, Ltd., San Diego, Calif.
Charles E. Salik, San Diego, Calif.
American Broadcasting Company, Inc., Yuma, Arizona
McAllen Television Corporation, McAllen, Texas
Allen B. DuMont Laboratories, Inc., Nationwide plan

247. **Discussion of counterproposals denied on the basis of the Mexican Agreement.**

(a) **Charles E. Salik and Airfan Radio Corporation, Ltd.** Charles E. Salik and Airfan Radio Corporation, Ltd. filed counterproposals requesting that Channel 6 or 12 be added to San Diego, California. This assignment would necessitate the deletion of Channel 6 or 12 from Tijuana, Mexico as listed in the Third Notice. It was suggested that UHF channels could replace the VHF channels in Tijuana. However, in the negotiations on this matter conducted with Mexico agreement could not be reached on any assignment necessitating the deletion of Channel 6 or 12 from Tijuana. Furthermore, Mexico would not accept the suggestion that UHF channels are available to replace Channel 6 or 12 in Tijuana. Accordingly, the Mexican Agreement assigns Channels 6 and 12 to Tijuana. Since the Charles E. Salik and Airfan Radio Corporation, Ltd. counterproposals are inconsistent with this Agreement they must be denied.

(b) **McAllen Television Corporation.** McAllen Television Corporation filed a counterproposal requesting that Channel 5 be deleted from Brownsville, Texas and assigned to McAllen, Texas. Channel 12 was suggested as a substitute in Brownsville. As a result of our negotiations with Mexico Channel 12 is assigned by the

Mexican Agreement to Reynosa, Temaulipas, Mexico at a distance of only 52 miles from Brownsville. Mexico would not agree to any assignment precluding the use of Channel 12 in Reynosa. Accordingly, the McAllen Television Corporation counterproposal must be denied. As noted elsewhere in this Report, this counterproposal must also be denied for domestic reasons.

(c) **American Broadcasting Company, Inc.** The Third Notice proposed Channels 7 and 9 for Mexicali, Baja California, Mexico, duplicating channels proposed for Los Angeles, California. The American Broadcasting Company, Inc., licensee of Station KECA-TV operating on Channel 7 in Los Angeles, filed a counterproposal requesting that VHF Channels 7 and 9 be deleted from Mexicali. In order to accomplish its request, ABC suggested, among other things, that Channels 9 and 47 be substituted in Yuma, Arizona for Channels 11 and 13. However, subsequent to the filing of the ABC counterproposal, the Mexican Agreement assigned Channel 3 to Mexicali in the place of Channels 7 and 9. ABC filed a statement supporting the Mexican Agreement insofar as it makes the above changes from the Third Notice. The ABC counterproposal for Yuma is therefore moot.

(d) **Allen B. DuMont Laboratories Inc.** Allen B. DuMont Laboratories, Inc. filed a proposed "National Television Allocation Plan." After the Notice of November 7, 1951, issued pursuant to the Mexican Television Agreement, DuMont amended its plan suggesting several changes in the assignments prescribed by the Mexican Agreement. The DuMont plan thus modified would assign Channels 2 and 5 to Mexicali, Baja California, Mexico, in place of Channel 3 assigned by the Mexican Agreement, and would thereby add Channel 3 to San Diego, California. The assignment of Channels 2 and 5 in Mexicali would duplicate assignments proposed for Los Angeles, California. In further negotiations with Mexico, agreement for any assignment utilizing co-channel assignments for Mexicali and Los Angeles could not be reached. Accordingly, the DuMont plan is inconsistent with the Mexican Agreement. As noted elsewhere in this Report, however, the DuMont plan must also be denied for other reasons.

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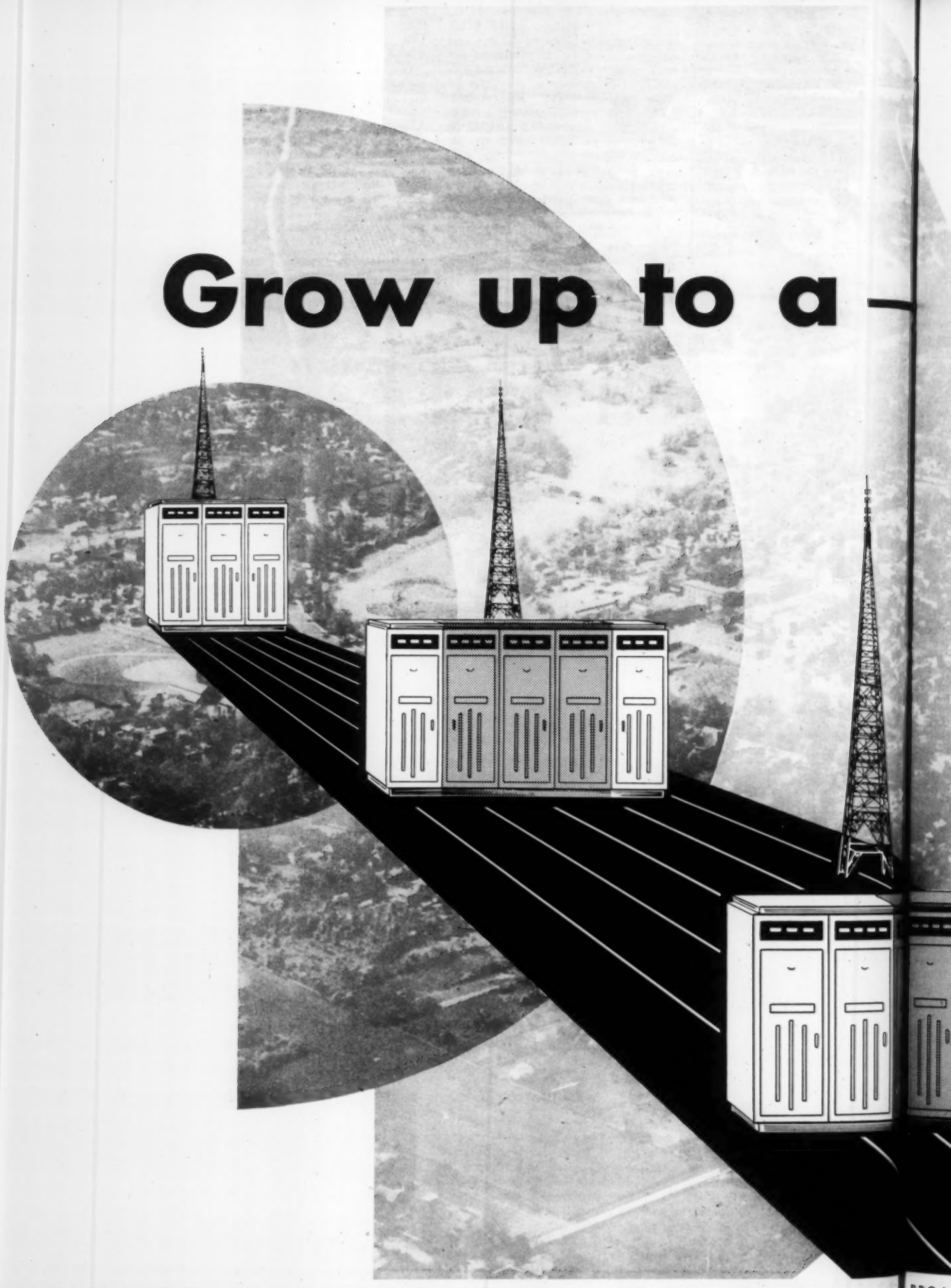
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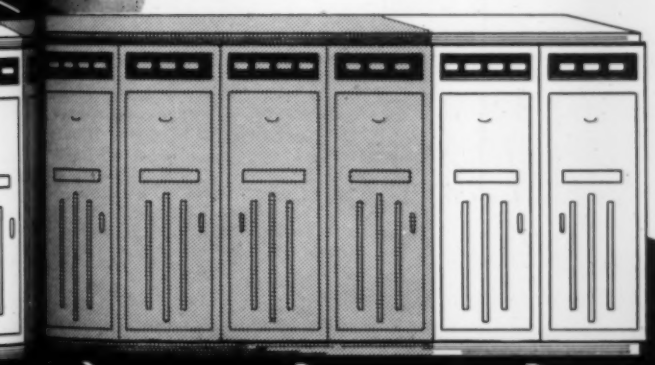

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THE TABLE OF ASSIGNMENTS

248. In the Third Notice, the Commission, in addition to proposing revised Rules and standards for the television broadcasting service, also proposed a Table of Assignments indicating the specific cities and communities in which it proposed to assign particular channels. Further, the proposed Table indicated the specific cities and communities in which it was proposed to reserve particular assignments for use by non-commercial educational stations. Parties were afforded an opportunity to support or to object to these proposed assignments and educational reservations. Further, they were afforded an opportunity to make counterproposals of their own. The following portion of this Report deals with the individual filings in this proceeding in support of or in opposition to the assignments and reservations proposed in the Third Notice; further, it deals with the individual counterproposals that have been made. No comments have been received with respect to the large majority of the assignments proposed. Except where we have found reason to re-examine proposed assignments, such assignments have not been discussed herein.

PORTLAND AND BANGOR, MAINE: EDUCATIONAL RESERVATIONS

249. (a) **Proposed Reservations.** In the Third Notice the Commission proposed the reservation of UHF Channel 16 in Bangor and UHF Channel 47 in Portland for non-commercial educational use.

(b) The Joint Committee on Educational Television [59] supported the reservation of Channel 47 in Portland and Channel 16 in Bangor for non-commercial educational use. No oppositions to these reservations were filed.

Conclusions

250. In view of the foregoing, the reservation of UHF Channel 47 in Portland and UHF Channel 16 in Bangor for non-commercial educational use are finalized.

ORONO, MAINE AND BURLINGTON, VERMONT: EDUCATIONAL RESERVATIONS

251. (a) **Proposed Reservations.** In the Third Notice the Commission proposed the reservation of VHF Channel 12 in Orono and UHF Channel 16 in Burlington for non-commercial educational use.

(b) **The Orono Educational Reservation.** The University of Maine supported the reservation of VHF Channel 12 for non-commercial educational use in Orono. The University stated that its long-range plans included the use of television; and that it anticipated that the Department of Education of the State of Maine would use the Orono channel for its television programs. No oppositions to this reservation were filed.

(c) **The Burlington Educational Reservation.** The University of Vermont and State Agricultural College supported the reservation of Channel 16 in Burlington for non-commercial educational use. The University stated that its President had been instructed to consider means for making facilities available for non-commercial educational television. The University submitted a copy of a resolution adopted by the Board of Trustees supporting the reservation. No oppositions to this reservation were filed.

Conclusions

252. On the basis of the foregoing, the proposed reservations of Channel 12 in Orono and Channel 16 in Burlington for non-commercial educational use are finalized.

DURHAM, NEW HAMPSHIRE BOSTON, BROCKTON, SPRINGFIELD-HOLYOKE, PITTSFIELD, WORCESTER, MASSACHUSETTS PROVIDENCE, RHODE ISLAND BRIDGEPORT, HARTFORD, NEW LONDON, NORWICH, NEW HAVEN, STORRS, WATERBURY, CONNECTICUT

253. (a) **Proposed Assignments and Reservations.**

City	VHF Channel No.	UHF Channel No.
Durham	*11 [60]	
Boston	*2, 4, 5, 7	44, 50, 56
Brockton		62
Pittsfield		64
Springfield-Holyoke		55, 61
Worcester		14, 20
Hartford		18, 24
Storrs		*26
Providence	10, 12	16, *22
Bridgeport		43, 49
New London	3	63
Norwich		57
Waterbury		53
New Haven	8	59

(b) **Counterproposals.** Various parties in this proceeding filed counterproposals seeking (1) the additional assignment of a VHF channel to Boston, Brockton, Springfield-Holyoke, Worcester and Hartford; (2) the additional assignment of 2 UHF channels to Hartford; (3) the assignment of UHF channels to Bridgeport, Hartford, Norwich and Waterbury to be reserved for non-commercial educational use; and (4) the assignment of a UHF channel to Hanover, New Hampshire, to be reserved for non-commercial educational use.

Durham

254. **The Durham Educational Reservation.** The University of New Hampshire supported the reservation of Channel 11 in Durham for non-commercial educational use. The University stated that it considered the reservation necessary and that it is exploring sources of financial assistance which it will require to establish and maintain a non-commercial educational television station. The exploration was expected to take time and the reservation was supported so that the channel would be available for educational use whenever it becomes feasible for the University to erect and maintain such a station.[61]

New London

255. (a) **Census Data.** The City of New London has a population of 31,000.

(b) **Statement of Thames Broadcasting Company Supporting Proposed Assignment.** Thames Broadcasting Company supported the proposed assignment of Channels 3 and 63 to New London and opposed all requests seeking the deletion of VHF Channel 3 from New London. Thames Broadcasting Company stated that the utilization of Channel 3 in New London would better serve the Commission's priorities set forth in the Third Notice than any of the counterproposals seeking the assignment of that channel to another community, that New London is saturated with VHF receivers; and that the assignments in the State of Connecticut should not be reduced.

Boston

256. (a) **Census Data.** The standard metropolitan area of Boston has a population of 2,370,000 and the City of Boston has a population of 801,000.[62]

(b) **Existing Stations.** Westinghouse Radio Stations, Inc., has a construction permit for Station WBZ-TV on Channel 4. Thomas S. Lee Enterprises, Inc., is licensed for the operation of Station WNAC-TV on Channel 7.

(c) **Counterproposal of Columbia Broadcasting System, Inc.** Columbia Broadcasting System, Inc., proposed 3 alternative plans for the additional assignment of Channel 9 to Boston.[63] Plan 1 would delete Channel 10 from Providence, and Plane 2 and 3 would delete Channel 11 from Durham by making the following changes in the assignments proposed in the Third Notice:

(d) **Statement in Support of CBS Counterproposals.** CBS stated that "... a major objective of the Commission is the reasonable assurance of the possibility of a nationwide competitive television service" and that CBS is genuinely concerned that very real dangers of monopoly inhere in the Commission's proposal allocation. CBS stated that "the Commission itself has recognized that for a considerable period perhaps 5 years, perhaps more, a commercial UHF station cannot compete on anything like an equal basis with a commercial VHF station in the same community..." CBS urged that "it must be obvious that during the not inconsiderable growth period of UHF network A with UHF outlets in Chicago, San Francisco and Boston would be under a crippling competitive disadvantage *via a vis* network B with VHF outlets in these three cities." Thus CBS argued "It is quite possible that the Commission's allocation plan will as a matter of practical necessity permit the development during the critical formative years of only 2 full nationwide competing television networks," and that this situation "... accentuates the danger of the proposed allocations for ... Boston —although the danger is clearly present even if we assume the continued existence of 4 such networks. The need for additional VHF channels in these cities in order to assure network competition is readily demonstrable even if four television networks are assumed." CBS stated that Boston is of vital importance to nationwide television networking and that a network which owns no station in Boston or comparable city is at an enormous or fatal competitive disadvantage. CBS pointed out that with only one Boston VHF commercial channel unassigned under the Commission's plan "... there is no assurance that a network could acquire a construction permit via the application route in these cities." CBS stated further "... it is a fact of television network economics and operations that a full complement of network owned stations is a condition precedent to successful networking on a fully competitive basis." Were a network not to own stations in key markets such as Boston, it was claimed the problem of clearance could become a major factor in obtaining or losing a network advertiser. It was also asserted that "... another factor which makes it advantageous competitively for

City	Third Notice VHF Channel No.	Third Notice UHF Channel No.	Plan #1 VHF Channel No.	Plan #1 UHF Channel No.	Plan #2 VHF Channel No.	Plan #2 UHF Channel No.	Plan #3 VHF Channel No.	Plan #3 UHF Channel No.
Augusta, Maine	10	29	12†	29	13†	29	13†	29
Calais, Maine	7	20	3†	20				
Lewiston, Maine	8	17	10†	17				
Orono, Maine	*12		*4†		*11†		*11†	
Portland, Maine	6, 13	*47, 53	6, 8†	*47, 53	6, 10†	*47, 53	6, 10†	*47, 5
Boston, Mass.	*2, 4, 5, 7	44, 50, 56	2, 4, 5, 7, 9†	*44, 50, 56	2, 4, 5, 7, 9†	*44, 50, †	2, 4, 5, 7, 9†	*44, 50, 5
Durham, N. H.	*11		*13†		†	*56†	†	*Flex. C
Manchester, N. H.	9	48	11†	48	12†	48	12†	48
Providence, R. I.	10, 12	16, *22	†, 12	16, *22	11†, 13†	16, *22	11†, 13†	16, *22
Albany-Schenectady-Troy, N. Y.	6	*17, 23	6, 10†	*17, 23	6, 10†	*17, 23	6, 10†	17, 23
St. John, Canada	4, 6	17, 23	6, 7†	17, 23				

Note: A proposal for the deletion, addition, or substitution of a channel is indicated in the Report by (†); a blank space opposite a city indicates that under that plan no changes in channel assignments were requested for that city.

[59] Referred to hereinafter as JCET.

[60] An asterisk is used in this Report to designate channels reserved for non-commercial educational use.

[61] Columbia Broadcasting System, Inc., filed a counterproposal containing 3 alternative plans for the additional assignment of a VHF channel to Boston; Plans 2 and 3 would substitute a UHF channel in Durham for Channel 11. This counterproposal is set forth in detail below.

[62] Census data in this Report is based on 1950 U.S. Census of population and is reported to the nearest thousand.

[63] In addition, CBS opposed the reservation of VHF Channel 2 in Boston for non-commercial educational use. The educational reservation in Boston is considered below.

network to own a station [in a city such as Boston] is that which relates to the problem of origination . . . because the cost of television facilities and of the operating organizations are high it is far more efficient, and economical to integrate network and local operation rather than to have only network facilities in a city."

(e) **Counterproposal of Matheson Radio Company, Inc.** Matheson Radio Company, Inc., requested the additional assignment of Channel 9 to Boston by substituting UHF channels for VHF channels in both Providence, Rhode Island, and Manchester, New Hampshire, and by making the following changes in the assignments proposed in the Third Notice:

City	Third Notice VHF Channel No.	Third Notice UHF Channel No.	Proposed Changes VHF Channel No.	Proposed Changes UHF Channel No.
Hartford, Conn.		18, 24		24, 55†
Storrs, Conn.		*26		*18†
Barnstable, Mass.		52		62†
Boston, Mass.	*2,4,5,7	44, 50, 56	*2,4,5,7,9†	†, 50, 56
Brockton, Mass.		62		44†
Fall River Mass.		40, 46		46, 52†
New Bedford, Mass.		28, 34		34, 40†
Springfield-Holyoke, Mass.		55, 61	10†	†, 61
Worcester, Mass.		14, 20		20, 26†
Berlin, N. H.		26		64†
Manchester, N. H.	9	48	†	14†, 48
Rochester, N. H.		21		51†
Providence, R. I.	10,12	16, *22	†, 12	16, *22,28†

(f) **Statement in Support of Matheson Radio Company, Inc., Counterproposal:** Matheson stated that its proposal would make possible a first VHF channel for Springfield, and that Boston is now saturated with VHF receivers and, accordingly, the UHF assignments will not be used there in the foreseeable future. It was urged that the assignments proposed by the Commission would deprive Boston of some network programs, and that even if UHF assignments were utilized in Boston, the coverage of any such UHF station would be inadequate for the Boston trading area. Since Manchester and Providence have smaller trading areas than Boston, Matheson argued that UHF assignments in these cities would be satisfactory.

(g) **Oppositions and Conflicting Counterproposals to the CBS and Matheson Radio Company, Inc., Counterproposals.** Grandview, Inc., and Radio Voice of New Hampshire both of Manchester, opposed the Matheson Radio Company, Inc., counterproposal in so far as it would delete a VHF channel from Manchester. Cherry & Webb Broadcasting Company and the Outlet Company, both of Providence, opposed the CBS and the Matheson Radio Company, Inc., counterproposals. Regional TV Corp., Hampden-Hampshire Corp., Travelers Broadcasting Service Corp.* and WTAG, Inc., opposed the counterproposals of CBS and Matheson Radio Company, Inc., in so far as these counterproposals were mutually exclusive with counterproposals for additional VHF channels in Springfield-Holyoke, Hartford and Worcester, respectively. In addition, an opposition to CBS Plans 2 and 3 was filed by WPIX, Inc., presently operating Station WPIX on Channel 11 at New York. WPIX alleged that interference would result to the Grade B service areas of WPIX and WJAR-TV at Providence due to the 154 mile spacing of these assignments under CBS proposals 2 and 3. In a similar manner it was alleged there would be mutual interference on Channel 13 between a Providence station and WATV at Newark, New Jersey. The CBS proposal, WPIX asserted, would add a fifth VHF channel to Boston and a second VHF channel to Albany, and in each case these new assignments would substantially duplicate the VHF coverage of other stations. Finally, Radio Voice of New Hampshire opposed the CBS Plans in so far as they would assign Channels 11 or 12 to Manchester in lieu of Channel 9 proposed in the Third Notice.

(h) **The Boston Educational Reservation.** The members of the Lowell Institute Cooperative Broadcasting Council of Boston, consisting of Boston College, Boston University, Harvard University, Lowell Institute, Massachusetts Institute of Technology, Northeastern University, Tufts College, and Boston Symphony Orchestra, supported the proposed reservation of VHF Channel 2 in Boston for noncommercial educational use. The members of the Council and other parties, including the City of Boston, the Commonwealth of Massachusetts, Senators Henry Cabot Lodge, Jr., and Leverett Saltonstall, Congressman Christian A. Herter and Richard B. Wigglesworth, various private and parochial schools, the American Academy of Arts and Sciences and various museums, all indicated their belief that the Lowell Institute Cooperative Broadcasting Council, licensee of educational FM Station WGBH, is the proper agency for coordinating the joint effort to secure the funds necessary to construct and operate a noncommercial educational television station in Boston. The Council stated that it has had extensive experience in the fields of radio and television and is prepared to meet the responsibilities of television broadcasting; that it is seeking the funds for constructing and operating the station; and that it "is more than reasonably confident that they can be secured if VHF Channel 2 is reserved in Boston for non-commercial educational broadcasting." Emerson College in a separate statement also supported the reservation of VHF Channel 2 in Boston.

(i) **Opposition to the Boston Educational Reservation.** CBS opposed the reservation of VHF Channel 2 for non-commercial educational use in Boston urging the same grounds advanced by it in support of its counterproposal for an additional VHF assignment in Boston. CBS contended that while ultimately UHF and VHF would be competitive, during a considerable interim period of perhaps 5 years or more, a commercial UHF station cannot compete successfully with a commercial VHF station in the same community; but that the short-run competitive disadvantages of a UHF assignment are much less significant for non-commercial educational broadcasters since (1) educational broadcasters are not as critically affected by the anticipated reduced coverage of UHF, (2) the educational interests generally are not ready to proceed with construction of a television facility immediately, and (3) the educators will be seeking a minority audience rather than "mass circulation" and therefore the loss of circulation involved in UHF, as against VHF, is comparatively insignificant. CBS further alleged that the comments of the Lowell Institute "provide no basis whatever for a finding by the Commission that there is any assurance that the Lowell Institute will in fact utilize Channel 2 in Boston in the ascertainable future or that a UHF channel will not serve equally as well." In reply to CBS, the JCET asserted that shifting the reservation to a UHF channel would greatly handicap educators in obtaining funds if mass distribution of UHF receivers is as far distant as indicated by CBS. The JCET further contended that CBS, in light of its financial resources, is in a much better position to shoulder the burden of developing UHF in Boston than are the educators.

Brockton

257. (a) **Census Data.** The standard metropolitan area of Brockton has a population of 130,000, and the City of Brockton has a population of 63,000.

(b) **Counterproposal of Enterprise Publishing Company.** Enterprise Publishing Company requested the deletion of VHF Channel 5 from Boston and the assignment of this channel to Brockton.

(c) **Statement in Support of Enterprise Publishing Company Counterprosopal.** Enterprise Publishing Company stated that Brockton is one of the few large population centers for which only one assignment has been proposed. It was urged that a first VHF channel for Brockton should receive preference over a fourth VHF channel for Boston.

(d) **Opposition to Counterproposal of Enterprise Publishing Company.** Oppositions to the Enterprise Publishing Company counterproposal were filed by Matheson Radio Co., Inc., CBS, and Cowles Broadcasting Co. In the oppositions it was asserted that Brockton is situated less than 20 miles from Boston and would receive Grade A service from the operation of a VHF station in Boston.

Springfield-Holyoke

258. (a) **Census Data.** The standard metropolitan area of Springfield-Holyoke has a population of 407,000; the City of Springfield has a population of 162,000 and the City of Holyoke has a population of 55,000.

(b) **Counterproposals of Hampden-Hampshire Corporation and Regional TV Corporation.** Hampden-Hampshire Corporation, Holyoke, Massachusetts, requested the assignment to Springfield of either Channel 3 or Channel 10 by deleting from New London or Providence, respectively, and by making the following changes in the assignments proposed in the Third Notice:

City	Third Notice VHF Channel No.	Third Notice UHF Channel No.	Proposal 1 VHF Channel No.	Proposal 1 UHF Channel No.
New London, Conn.	3	63	†	63 plus UHF†
Lewiston, Maine	8	17	3†	17
Springfield-Holyoke, Mass.		55, 61	3†	55, 61
Montpelier, Vt.	3	40	8†	40
			Proposal 2	
Springfield-Holyoke, Mass.		55, 61	10†	55, 61
Providence, R. I.	10, 12	16, *22	†, 12	16, *22 plus UHF†

Assignment of the Providence Channel 10 to Springfield would require WJAR-TV in Providence to operate on Channel 12 rather than Channel 10 as proposed in the Third Notice. Regional TV Corporation requested the assignment of Channel 3 to Springfield-Holyoke by deleting that channel from New London.

(c) **Statements in Support of Hampden-Hampshire and Regional TV Corporation Counterproposals.** It was stated that Springfield should receive a VHF assignment because it is the third largest city in New England; that UHF is not desirable for the area because of the rough terrain; and that 14 of the 20 VHF assignments in the New England area are proposed for cities of lesser importance than Springfield.

(d) **Oppositions to the Hampden-Hampshire and Regional TV Corporation Counterproposals.** Travelers Broadcasting Service Corp., The

*In rebuttal to these oppositions CBS pointed out that Channel 10 which would under its counterproposal be assigned to Albany could alternatively be assigned to Springfield or Hartford.

Hartford Times, Inc., Greylock Broadcasting Service Corp., CBS, Inc., and WTAG, Inc., opposed the foregoing counterproposals since they were mutually exclusive with the counterproposals for additional VHF channels in Hartford, Pittsfield, Boston and Worcester. The Thames Broadcasting Corporation opposed the foregoing counterproposals in so far as they would delete VHF Channel 3 from New London. The Outlet Co., and Cherry & Webb Broadcasting Company opposed the counterproposal of Hampden-Hampshire in so far as it would delete VHF Channel 10 from Providence. Lewiston-Auburn Broadcasting Corp. opposed the counterproposal of Regional TV Corporation in so far as it would change the assignment of Lewiston, Maine, from Channel 8 to Channel 3.

Worcester

259. (a) **Census Data.** The standard metropolitan area of Worcester has a population of 274,000 and the City of Worcester has a population of 203,000.

(b) **Counterproposal of WTAG, Inc.** WTAG, Inc., requested the assignment of Channel 12 to Worcester by deleting that channel from Providence.

(c) **Statement in Support of WTAG, Inc., Counterproposals.** WTAG asserted that Worcester ranks 29th among the nation's markets on the basis of the area's economic potential; that it ranks second only to Boston in the State of Massachusetts; and that it is the third most important market in New England.

(d) **Oppositions to WTAG, Inc., Counterproposal.** Cherry & Webb Broadcasting Company and The Outlet Company opposed the deletion of VHF Channel 10 from Providence. Travelers Broadcasting Service Corporation, Hampden-Hampshire Corporation, and CBS opposed the foregoing counterproposal since it was mutually exclusive with counterproposals for the additional assignment of VHF channels to Hartford, Springfield-Holyoke and Boston.

Pittsfield

260. (a) **Census Data.** The standard metropolitan area of Pittsfield has a population of 66,000 and the city of Pittsfield has a population of 53,000.

(b) **Counterproposal of Greylock Broadcasting Company.** Greylock Broadcasting Company requested the assignment of VHF Channel 3 to Pittsfield by deleting that channel from New London and by making the following changes in the assignments proposed in the Third Notice:

	Third Notice		Proposed Changes	
City	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.
Pittsfield, Mass.		64	3†	64
Syracuse, N. Y.	3,8	*43	5†,8	*43
Rochester, N. Y.	5,10	15,*21,27	3†,10	15,*21,27
Montpelier, Vt.	3	40	8†	40
Lewiston, Maine	8	17	3†	17
Hamilton, Ontario	13	51,57	6†	51,57
Toronto, Ontario	6,9,11	19,25	9,11,13†	19,25
Orillia, Ontario	3	30	5†	30
Sudbury, Ontario	5,7	17,23	3†, 7	17,23
New London, Conn..	3	63	†	63

(c) **Statement in Support of Greylock Broadcasting Company Counterproposal.** Greylock Broadcasting Company argued that the operation of Channel 3 at Mt. Greylock in Pittsfield would result in more extensive coverage than the operation of that channel in New London or other New England cities for which the channel was requested. In view of the size of this alleged service area, Greylock contended that Pittsfield should be considered as the second Massachusetts city for assignment purposes. Greylock argued that a second city in the more populous state of Massachusetts should receive a VHF channel in preference to a second city in the smaller and less populous state of Connecticut. Finally, Greylock asserted that the use of Channel 3 at Pittsfield would better implement the priorities than would the use of this channel at either Hartford or Springfield-Holyoke.

(d) **Oppositions to the Greylock Broadcasting Company Counterproposal.** Thames Broadcasting Company opposed the deletion of Channel 3 from New London. Lewiston - Auburn Broadcasting Corporation opposed the substitution of Channel 3 for Channel 8 at Lewiston. Springfield Regional Television, Hampden - Hampshire, Hartfort Times, Travelers Broadcasting Service., CBS, WAGE, Inc., the Buffalo Courier Express, *et al.*, opposed the counterproposal of Greylock Broadcasting Co., since it was mutually exclusive with the counterproposals for additional VHF channels in Springfield, Hartford, Boston, Syracuse, and Buffalo. Stromberg-Carlson Co., Licensee of WHAM-TV, Rochester,[65] New York, opposed the Greylock Broadcasting Company proposal in so far as it would result in the assignment of Channel 3 to Rochester in lieu of Channel 5.

Providence

261. (a) **Census Data.** The standard metropolitan area of Providence has a population of 737,000 and the city of Providence has a population of 249,000.

(b) **Existing Stations.** The Outlet Company is licensed for the operation of Station WJAR-TV, Providence, on Channel 11. The Commission ordered the Outlet Company to show cause why the license of WJAR-TV should not be modified to specify operation on Channel 10, in lieu of Channel 11.

(c) **Statements of The Outlet Company and Cherry & Webb Company Supporting the Proposed Assignments.** The Outlet Company, licensee of WJAR-TV, supported the Commission's assignments for Providence and agreed to the proposed channel change for WJAR-TV. Cherry & Webb Broadcasting Company also supported the assignments for Providence and stated that the Providence assignments provided the minimum necessary to meet the needs of the area; and that the deletion of one of the two VHF assignments proposed for Providence would result in an inequitable distribution of facilities.[66]

(d) **Providence Educational Reservation.** The JCET, Brown University, Providence College, University of Rhode Island, the Rhode Island College of Education, and the Providence School Department supported the reservation of Channel 22 for non-commercial educational use. The JCET stated that the Catholic Schools of the Archdiocese of Providence also supported the reservation. Brown University stated that a state-wide meeting had been held for the purpose of discussing the utilization of educational television, and that as a result of this meeting, an educational television committee was established under the chairmanship of the State Director of Education. No opposition to this reservation was filed.

Hartford

262. (a) **Census Data.** The metropolitan area of Hartford has a population of 356,000 and the city of Hartford has a population of 177,000.

(b) **Counterproposal of The Hartford Times, Inc.** The Hartford Times, Inc., proposed 3 alternative plans for the assignment of VHF Channel 3 to Hartford which would delete that channel from New London and make the following alternative changes in the assignments proposed in the Third Notice:

	Third Notice		Plan 1	
City	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.
Hartford, Conn.		18,24	3†	18,24,59†
New Haven, Conn.	8	59	8	75†
New London, Conn.	3	63	†	47†,63

	Third Notice		Plan 2	
	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.
Hartford, Conn.		18,24	3†	18,24,59†
New Haven, Conn.	8	59	8	75†
New London, Conn.	3	63	†	47†,63
Montpelier, Vt.	3	40	8†	40
Lewiston, Maine	8	17	3†	17

	Third Notice		Plan 3	
	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.
Hartford, Conn.		18,24	3†	18,24,59†
New Haven, Conn.	8	59	8	75†
New London, Conn.	3	63	†	63,83†
Montpelier, Vt.	3	40	8†	40
Lewiston, Maine	8	17	3†	17

(c) **Statement in Support of The Hartford Times Counterproposal.** The Hartford Times argued that the Hartford area should be considered in terms of the Hartford-New Britain metropolitan district with a population of 501,000 making it the third largest in the New England area and vastly more important as a population and economic center than New London. It was also urged that 78% of the service area of a VHF station operating on Channel 3 at Hartford would overlap the service area of a VHF station operating on Channel 3 at New London. With respect to its proposal to utilize Channel 47 at New London, Hartford Times recognized that such assignment would result in a violation of the UHF assignment limitation requiring 60-mile separation to prevent interference due to oscillator radiation but asserted that the interference would be at a minimum.

(d) **Oppositions and Conflicting Counterproposals to The Hartford Times Counterproposals.** Thames Broadcasting Corp., opposed the deletion of VHF Channel 3 from New London. CBS, Matheson Radio Company, Greylock Broadcasting Company, Regional TV Corporation and Hampden-Hampshire opposed the counterproposal of Hartford Times since it was mutually exclusive with counterproposals for the assignment of VHF channels to Boston, Pittsfield, and Springfield. Lewiston - Auburn Broadcasting Corp., opposed the substitution of Channel 3 for Channel 8 in Lewiston.

(e) **Counterproposal of Trave-**

[65] WHAM-TV is presently operating on Channel 6. In the Third Notice the Commission has ordered the license to show cause why the license of WHAM-TV should not be modified to specify Channel 5.

[66] Matheson Radio Company, Inc., objected to all statistics in the Cherry & Webb statement based on Chamber of Commerce or trade area publications and requested that such data be stricken from the record. We believe, however, that such data is admissible in this proceeding.

ers Broadcasting Service Corp. Travelers Broadcasting Service Corp. proposed 2 alternative plans for the assignment of a first VHF channel and a third UHF channel to Hartford. Plan 1 would delete Channel 3 from New London and Plan 2 would delete Channel 10 from Providence by making the following changes in the assignments proposed by the Commission in the Third Notice:

	Third Notice		Plan 1	
City	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.
Hartford, Conn.		18, 24	3†	18, 24, 81† or 83†
New London, Conn.	3	63	†	63, plus 22† or 81† or 83†
Montpelier, Vt.	3	40	8†	40
Lewiston, Maine	8	17	3†	17
Providence, R. I.	10, 12	16, *22	10, 12	16 plus 22† if 81 or 83 is assigned to New London

	Third Notice		Plan 2	
City	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.
Hartford, Conn.		18, 24	10†	18, 24, 81† or 83†
Providence, R. I.	10, 12	16, *22	†, 12	16, *22

(f) **Statement in Support of Travelers Broadcasting Service Corp. Counterproposal.** In support of its request to delete Channel 3 from New London, Travelers asserted that the population of the Hartford area is 356,000 compared to New London's 30,367; that Channel 3 at Hartford would serve more persons and area than a similar operation at New London; that the use of Channel 3 at New London would be wasteful since approximately half of the signal would be lost over water; and that UHF would not be suitable to the terrain in the Hartford area. With respect to its proposal to assign Providence's Channel 10 to Hartford, Travelers stated that the use of this channel at Hartford would bring a first VHF service to a large population center in addition to providing a second VHF service to an even greater population; while the use of this channel at Providence would merely duplicate the service area of an existing VHF station in that city.

(g) **Oppositions and Conflicting Counterproposals to Travelers Broadcasting Service Corporation.** Oppositions to the above counterproposal have been filed by Thames Broadcasting Corporation, Cherry & Webb Broadcasting Company and the Outlet Company, WTAG, Inc., Regional TV Corporation, Greylock Broadcasting Company, CBS, Matheson Radio Company, Lewiston-Auburn Broadcasting Corporation and Hampden-Hampshire Corporation.

New Haven

263. (a) **Census Data.** The metropolitan area of New Haven has a population of 263,000 and the city of New Haven has a population of 164,000.

(b) **Existing Station.** Elm City Broadcasting Corporation is licensed for the operation of Station WNHC-TV, New Haven, on Channel 6. This station is presently operating as a community station with 2 kw power at 510 feet antenna height. The Commission ordered the licensee to show cause why the license of WNHC-TV should not be modified to specify operation on Channel 8 in lieu of Channel 6. The Third Notice proposed to remove the community classification of this station and would permit the station to operate with full power and antenna height.

(c) **Answer of Elm City Broadcasting Corp. to Show Cause Order.** Elm City Broadcasting Corporation acceded to the Commission's proposed change in assignment for WNHC-TV but limited its acceptance of the change on the condition that the proposals set forth in Appendices A and B of the Third Notice be finalized without substantial change prejudicial to Elm City and that the frequency assignments proposed in Appendix C of the Third Notice for communities in Connecticut be adopted. The Commission indicated in the Third Notice that antenna heights above 500 feet would not be authorized where the effect of the utilization of such heights would cause adjacent channel interference to the Grade A service area of another station assuming operation by such station with maximum power and an antenna height of 500 feet. Adjacent channel interference was to be calculated on the basis of O db ratio. The American Broadcasting Company, Inc., licensee of Station WJZ-TV operating on Channel 7 in New York City, and General Teleradio Inc., licensee of Station WOR-TV operating on Channel 9 in New York City, both opposed the assignment of WNHC-TV on Channel 8. These parties stated, however, that they would have no objection to the use of this channel in New Haven if the conditions with respect to the use of antenna height above 500 feet were modified to permit the use of such heights without regard to adjacent channel interference or in the alternative, if the provisions of this section were waived for Stations WJZ-TV and WOR-TV.

Educational Reservations in the State of Connecticut

264. (a) **The Storrs Educational Reservation.** The University of Connecticut supported the reservation of UHF Channel 26 in Storrs for non-commercial educational use. The University stated, however, that "definite action based upon adequate financial support from State public monies stands little chance of becoming an immediate reality"; and that unless an educational channel was reserved for at least a decade their plans for an educational television station could not be realized.

(b) **Counterproposal of Connecticut State Board of Education.** The Connecticut State Board of Education requested the reservation for non-commercial educational use of the following UHF channels: Bridgeport, Channel 43; Hartford, Channel 18; Norwich, Channel 57; and Waterbury, Channel 53.[67] As an alternative to the request for the above listed channels, the Connecticut State Board of Education requested a revision of the Commission's proposed policy with respect to UHF flexibility channels. Specifically, the State Board of Education requested that the Commission permit an educational institution to apply for such a channel in any community in which no television channel had been reserved for non-commercial educational use. The State Board of Education also requested that "the Commission propose a plan which will allow coverage of eastern Connecticut for non-commercial education without entirely eliminating the possibility of a commercial station in that large area." The Board submitted a statement by the Acting Governor of Connecticut declaring that it was the intention of the state administration to introduce before the State General Assembly a bill proposing the authorization to the State Board of Education of $1,200,000 for the construction and operation of an educational broadcast service to serve the entire State of Connecticut. The bill in question, if approved, would be effective during the budgetary period, fiscal 1953-1955.

[67] By Memorandum Opinion and Order dated October 31, 1951, the Commission stated it would not consider the requests of the Board for a reservation of Channels 57 in Norwich and 53 in Waterbury.

Conclusions: Boston and Durham

265. The counterproposal of CBS, in so far as it requests the assignment of VHF Channel 9 in Boston by the substitution of UHF Channel 56 or a flexibility channel in Durham for VHF Channel 11 (Plans 2 and 3) must be denied for the reason that it would result in two violations of the minimum co-channel assignment separations.

266. The CBS counterproposal (Plans 2 and 3) would require co-channel operation of Channel 11 in New York and Providence. WJAR-TV is now operating on Channel 11 in Providence and WPIX is operating on this frequency in New York City. The distance between the transmitters of these stations is 160 miles. It was to improve this low co-channel separation that the Commission issued a show cause order in this proceeding which would require WJAR-TV to move to Channel 10. Under the Commission's plan, the nearest co-channel station to WJAR-TV would be located in Augusta, Maine, at a distance of approximately 185 miles. The CBS counterproposal (Plans 2 and 3) would also require co-channel operation of Channel 13 at Providence and Station WATV at Newark, New Jersey. WATV is presently operating on Channel 13 at Newark and its transmitter is 165 miles from Providence. The Commission's assignment plan would not involve such co-channel operation but would place the second Providence VHF assignment on Channel 12. The nearest co-channel assignment to Providence on Channel 12 is Binghamton, New York, at a separation of about 235 miles. Further, we find that a reduction in the number of VHF assignments in New Hampshire to one is not warranted in order to make another VHF assignment for the City of Boston and the State of Massachusetts.

267. In view of the fact that the CBS counterproposal (Plans 2 and 3) would in two instances reduce the co-channel separations proposed by the Commission below the minimum separations adopted herein and would reduce the number of VHF assignments in New Hampshire to one, the CBS proposal, in so far as it requests the deletion of VHF Channel 11 from Durham (Plans 2 and 3) is denied. On the basis of the record, the reservation of Channel 11 in Durham for non-commercial educational use is finalized.

Conclusions: Boston, Hartford, Springfield, Holyoke, Worcester, Providence

268. The counterproposals of CBS (Plan 1) and Matheson Radio Co., requested the deletion of Channel 10 from Providence in order to assign a VHF channel to Boston. In addition, the counterproposal of Matheson Radio Co. would delete Channel 9 from Manchester, New Hampshire, a city of 83,000 people. The counterproposals of Hampden-Hampshire and Travelers Broadcasting Service Corporation (Plan 2) also requested the deletion of Channel 10 from Providence in order to assign a VHF channel to Springfield-Holyoke and Hartford, respectively. The counterproposal of WTAG, Inc., requested the deletion of Channel 12 from Providence in order to assign that channel to Worcester.

269. All of the foregoing counterproposals seek the deletion of a VHF channel from Providence. Upon careful consideration of all the evidence, we believe that these counterproposals must be denied. The entire State of Rhode Island, with a population of 792,000, has but two VHF assignments; and both of these are located in the City of Providence, which ranks 19th among the nation's metropolitan areas and is the second largest city in the New England area with a metropolitan area population of 737,000. The Matheson Radio Company counterproposal would, in addition, delete the only VHF commercial assignment from the State of New Hampshire. It is our view, under the circumstances presented, that the reduction of the VHF assignments in Rhode Island to one would result in an unfair and inequitable distribution of assignments among the states and that the record does not support the deletion of a VHF channel from Providence. Moreover, with respect to the counterproposals of CBS and Matheson, we do not believe the record warrants the deletion of an assignment from a city as large and as important as Providence in order to create another assignment for Boston. Accordingly, the counterproposals of CBS, Hampden-Hampshire Corporation, Travelers Broadcasting Service Corporation, and WTAG, Inc., are denied in so far as they request the deletion of a VHF channel from Providence; and the counterproposal of Matheson Radio Company requesting the substitution of UHF channels for VHF channels in

Providence and Manchester is also denied.

Conclusions: Show Cause Order (WJAR-TV)

270. An appropriate authorization will be issued to the Outlet Company to specify operation of WJAR-TV on Channel 10.

Conclusions: Providence Educational Reservation

271. On the basis of the record the reservation of UHF Channel 22 in Providence for non-commercial educational use is finalized.

Conclusions: The Boston Educational Reservation

272. The educational organizations in Boston have demonstrated their interest in establishing a non-commercial educational television station in the Boston area. They have supported this interest with concrete plans to establish such a station by banding together in an association, the Lowell Institute Cooperative Council of Boston. They have mobilized their resources and, further, have already established a non-commercial educational FM station.

273. As set out above, CBS opposed the reservation of Channel 2 in Boston for non-commercial educational use and requested the assignment of that channel for commercial use. We recognize that competition in broadcasting, both at the national and local level, should be maintained and stimulated. However, the reservation of channels for non-commercial educational use of necessity results in a reduction of potential commercial competition by providing fewer channels to the commercial service. But the demands of commercial interests and educational interests for the assignment of channels to their respective services require an evaluation of the ends to be served by both classes of stations. We can find no justification on the record for the conclusion that the alleged demands of economic competition outweigh the benefits to be derived from non-commercial educational television so as to require us to deviate from our general policy with respect to the designation of educational reservations and place the Boston reservation in the UHF.

274. We reject CBS's contention that the availability to it of a commercial channel in Boston is an appropriate matter for our consideration at this time. In this rule making proceeding we are concerned with the assignments of channels to meet the needs and interests of states and communities for non-commercial educational and commercial television. The qualifications or particular circumstances of individual applicants are matters that can and should be fully determined in licensing proceedings.

275. In view of the foregoing, the CBS counterproposal is denied in so far as it requests a shift of the reservation to a UHF channel and the reservation of Channel 2 in Boston for non-commercial educational use is finalized.

Conclusions: Boston and Brockton

276. The counterproposal of Enterprise Publishing Company seeks the assignment to Brockton of a VHF channel proposed in the Third Notice for Boston. Brockton will receive Grade A service from the operation of VHF stations in Boston sinee it is located less than 20 miles from that city. It is our view that where a community seeks a first VHF assignment by the deletion of a VHF assignment from one of the very largest cities of the United States, the deletion is not warranted where the smaller city receives Grade A VHF service from stations located in the larger city. It is our view, therefore, that the deletion of a VHF assignment from a city as large and as important as Boston to create one for Brockton is not warranted.

Conclusions: Springfield-Holyoke, Hartford, Pittsfield, New London

277. Parties in three cities, Springfield, Hartford and Pittsfield, seek the assignment of Channel 3 for their respective cities by deleting that channel from New London. The counterproposals of Regional TV Corporation and Hampden-Hampshire Corporation requested the deletion of Channel 3 from New London and the assignment of that channel to Springfield. The counterproposal of Greylock Broadcasting Corporation requested the deletion of Channel 3 from New London and the assignment of that channel to Pittsfield. The counterproposals of Hartford Times, Inc., and Travelers Broadcasting Service Corporation requested the deletion of Channel 3 from New London and the assignment of that channel to Hartford.

278. We stated above in connection with the discussion of requests for the deletion of a VHF channel from Providence that the reduction of VHF assignments in Rhode Island to one would, in our view, result in an unfair and inequitable distribution of assignments among the states. We are of the same view with respect to requests for the deletion of a VHF channel from New London in order to assign a channel to Pittsfield or to Springfield-Holyoke. We do not believe, under the circumstances presented, that the second VHF channel proposed to be assigned to Connecticut should be deleted in order to assign a fifth VHF channel to the State of Massachusetts.

279. It is our view, however, that the requests for the deletion of Channel 3 from New London in order to assign that channel to Hartford are meritorious and should be granted. The proposed assignment of Channel 3 to New London was predicated primarily on the Commission's desire for maintaining optimum co-channel spacings wherever possible. The Commission has reconsidered the need for such wider spacings in this area. In light of the record, we have determined that closer spacings can be utilized in an area such as New England where high population centers lie in very close proximity. The population of Hartford is more than 5 times the population of New London, and Hartford is presently without any VHF assignment. Moreover, the New London area would receive VHF service from stations located in Providence and New Haven; and if Hartford is assigned a VHF channel, New London would receive Grade A service from a station in Hartford. It is our view, therefore, that Channel 3 should be deleted from New London and assigned to Hartford.

280. Accordingly, the counterproposals of Regional TV Corporation, Hampden-Hampshire Corporation and Greylock Broadcasting Corporation are denied, and the counterproposals of the Hartford Times, Inc., and Travelers Broadcasting Service Corporation are granted, in so far as they requested the deletion of Channel 3 from New London and the assignment of that channel to Hartford.

Conclusions: Requests for UHF Assignments in Connecticut

281. Counterproposals have been filed by three parties requesting the assignment of additional UHF channels in Connecticut. The Hartford Times, Inc., requested the assignment to New London of Channel 47 to replace Channel 3. It also requested that two additional UHF channels, Channel 59 proposed for New Haven and flexibility Channel 81, be also assigned to Hartford. The Connecticut State Board of Education requested the reservation for non-commercial use of several UHF channels in Connecticut. Finally, there is the request of Travelers Broadcasting Service Corporation for the assignment of UHF Channel 81 or 83 to Hartford and the assignment of a UHF channel to New London to replace Channel 3.

282. Since we have deleted VHF Channel 3 from New London, it is our view that a UHF channel should be assigned to that community in substitution for the deleted channel. Channel 47 can not be assigned to New London as proposed by Hartford Times, Inc., since such assignment would be in violation of the minimum separation requirement established herein. Accordingly, UHF Channel 81 is assigned to New London.

283. There remains for our consideration the conflicting UHF demands of the Connecticut State Board of Education and the Hartford commercial interests.[68] It is our view that on the basis of the record the request of the Connecticut State Board of Education is entitled to the highest consideration. The Board of Education has requested educational reservations in Hartford and Bridgeport, and in addition that the Commission propose a plan which would allow coverage of eastern Connecticut without entirely eliminating the possibility of a commercial station in that area. It is impossible because of the scarcity of channels in this area to satisfy the whole request of the Connecticut State Board of Education. We feel, however, that it is possible to grant the counterproposal to the following extent: We have set aside Channel 24 in Hartford to be reserved for use by a non-commercial educational station. Likewise, we have reserved Channel 71 in Bridgeport and Channel 63 in Norwich for a non-commercial educational television station. To accomplish this we have, however, deleted the assignment to Storrs, and substituted Channel 26 in New London for Channel 63. In doing so, we have considered the fact that a Hartford station can serve Storrs. We have also considered that there is a greater likelihood, on the basis of the record, that an educational station will be built in Norwich than in Storrs. In addition it may be pointed out that a Hartford station would also provide service to Waterbury.

[68] No request was made by the State Board for a VHF reservation in Hartford for non-commercial educational use.

284. In view of the total spectrum space available for use in the State of Connecticut, the Commission is not in a position to grant any further assignments to Hartford for commercial purposes. The assignments we have made permit practically no further assignments in this area in either the VHF or the UHF. Under these circumstances, further assignments to Hartford are not warranted and the requests of the Hartford Times, Inc., and Travelers Broadcasting Service Corporation for additional UHF assignments in Hartford must be denied.

Conclusions: New Haven (WNHC-TV) Show Cause Order

285. We have in another portion of this Report discussed the problem of whether the Commission in effecting an assignment Table and in establishing Rules and standards for the assignment of television stations, should permit the use of antenna heights above 500 feet without regard to possible adjacent channel interference that might be caused as a result of such operation. We have there reached the decision that in view of the great gain in service area at the expense of minor interference, and for other reasons there set out, the Commission will permit the use of antenna heights above 500 feet without regard to adjacent channel intereference so long as specified minimum mileage separations are maintained.

286. The situation presented with respect to adjacent channel operation in New York and New Haven illustrates the soundness of the Commission's decision on this matter. The record indicates that if WJZ-TV operates with 200 kw at its present site on the Empire State Building, that station would increase its total Grade A service area coverage from 3,670 to 5,430 square miles, an increase of 48%. On the other hand, the interference area that would be caused to WNHC-TV operating on Channel 8 with 200 kw at 510 feet would be only 75 square miles, or at the most, 88 square miles as contended by Elm City. The remaining Grade A service area of WNHC-TV would be approximately 240 square miles. Under our decision with respect to power and height in Zone I, the interference to WNHC-TV would be slightly increased over the 88 square mile figure. However, the total Grade A remaining service area of WNHC-TV would be considerably increased. We are of the opinion that this small amount of interference should not negate the great gain in coverage that would be derived from the operation of WJZ-TV at its present antenna height with full power. Similarly, WOR-TV operating on Channel 9 in New York would gain extended coverage with the use of full power at its present antenna height while the interference to WNHC-TV would be slight. We do not believe, as is contended here, that Section 307(b) of the Communications Act requires us to prohibit such operation of WJZ-TV and WOR-TV. On the contrary, we are of the view that the mandate of the Communications Act that the Commission shall provide an efficient distribution of radio service requires that the small amount of adjacent channel interference should not

preclude the large gain in service area. In any event, adjacent channel interference is not a loss of service to the public since in the "interference area" the viewer would always have at least one service, and in some areas both services.

287. In view of the foregoing, the Commission is finalizing the assignment of Channel 8 to New Haven. An appropriate authorization to Elm City Broadcasting Corporation will be issued to specify operation of WNHC-TV on Channel 8.

Final Assignments and Reservations

288. The following assignments and reservations are adopted:

City	VHF Channel No.	UHF Channel No.
Durham	*11	
Boston	*2, 4, 5, 7	44, 50, 56
Brockton		62
Pittsfield		64
Springfield-Holyoke		55, 61
Worcester		14, 20
Hartford	3	18, *24
New Haven	8	59
New London		26, 81
Bridgeport		43, 49, *71
Norwich		57, *63
Providence	10, 12	16, *22
Waterbury		53

HANOVER, NEW HAMPSHIRE: EDUCATIONAL RESERVATION

289. (a) **Proposed Reservation.** In the Third Notice no channel assignment was proposed for Hanover.

(b) **Counterproposal of Dartmouth College.** Dartmouth College filed a counterproposal requesting that UHF Channel 21 be assigned to Hanover to be reserved for non-commercial educational use. This assignment would be accomplished by substituting Channel 51 in Rochester, New Hampshire, for Channel 21.

(c) **Statement in Support of Dartmouth College Counterproposal.** Dartmouth College stated that it had investigated the financing required for the construction of UHF television transmitting facilities and that the Board of Trustees was prepared to seek funds for this purpose. Dartmouth College's total operating budget for the fiscal year ending June 30, 1951 was in excess of $5,400,000. Dartmouth's total assets as of June 30, 1951 were in excess of $38,000,000.

(d) **Opposition to Dartmouth College Counterproposal.** Mid-Hudson Broadcasters, Inc., Poughkeepsie, New York, opposed Dartmouth College's counterproposal on the grounds that in the Third Notice, Channel 21 was assigned to Poughkeepsie, and that "the mileage separation between Poughkeepsie, New York, and Hanover, New Hampshire, is 158 miles." Mid-Hudson pointed out that this would violate the minimum UHF co-channel spacing (165 miles) prescribed by the Commission in its Third Notice. Both Poughkeepsie and Hanover are situated in Zone I.

CONCLUSIONS

290. We have above reconsidered the matter of co-channel spacings and have reduced the minimum UHF co-channel assignment spacing in Zone I to 155 miles. On the basis of this revised minimum mileage separations requirement, and in view of the foregoing, it is concluded that UHF Channel 21 should be assigned to Hanover and reserved for non-commercial educational use. Channel 51 will, therefore, be substituted in Rochester, New Hampshire in place of Channel 21.

Final Assignments and Reservations

291. The following assignments and reservation are adopted:

City	UHF Channel No.
Rochester, N. H.	51
Hanover, N. H.	*21

STATE OF NEW YORK: EDUCATIONAL RESERVATIONS

292. (a) **Proposed Reservations.** In the Third Notice the Commission proposed the following reservations for non-commercial educational use in New York State:

City	UHF Channel No.
Albany-Schenectady-Troy	*17
Binghamton	*46
Buffalo	*23
Ithaca	*14
New York City	*25
Rochester	*21
Syracuse	*43
Utica-Rome	*25

(b) **Support of the Educational Reservations:** The Board of Regents of the University of the State of New York supported the foregoing reservations for non-commercial educational use in the state of New York. The Board stated that it proposes to utilize the resources of more than 8,000 state educational and cultural institutions to afford educational opportunities to more than 91% of the population of the state. Sample program schedules, detailed as to content and objectives, were submitted by the Board. The Board proposes to construct a non-commercial educational television network at an estimated cost of $3,855,540 with an annual technical operating cost of $2,273,941 based on 16 hours of operation Monday through Friday and 12 hours Saturday and Sunday. Programming would be apportioned among the public and private institutions under its supervision and costs will be borne by participating institutions supplemented by state aid. Statements were also filed by the following institutions in support of the reservations of channels for non-commercial educational use in their respective communities and in support of the State Board's plan for a state-wide network: The City College of the City of New York, the Board of Education of the City of New York, Fordham University, The College of Forestry of the State of New York, Syracuse University, the Brooklyn Public Library, the New York State College for Teachers at Buffalo, the University of Rochester, the Rochester Institute of Technology, Rochester Board of Education and the University of Buffalo. No oppositions were filed with respect to the educational reservations proposed in the Third Notice.

(c) **Counterproposal of Board of Regents of the University of the State of New York.** The Board of Regents requested the additional reservation of a channel for non-commercial educational use in New York City, Malone and Poughkeepsie.

(d) **Statement in Support of Board of Regents Counterproposal.** With respect to New York City, the Board requested that either UHF Channel 19 or 31, which the Commission proposed to assign for commercial use, be reserved instead for non-commercial educational use. The Board urged that one educational station in New York City is inadequate to meet the needs of a state-wide program and the special educational needs of the city itself. No oppositions were filed to this counterproposal. With respect to Malone, the Board requested that UHF Channel 20, which the Commission proposed to assign for commercial use, be reserved instead for non-commercial use. In the alternative, the Board requested the assignment and reservation of an additional channel for non-commercial education use. No oppositions were filed to this counterproposal. With respect to Poughkeepsie, the Board requested that UHF Channel 21, which the Commission proposed to assign for commercial use, be reserved instead for non-commercial educational use. The Mid-Hudson Broadcasters, Inc., of Poughkeepsie opposed this request on the grounds that it would be in violation of the Commission's announced method employed in the making of non-commercial educational station reservations. In the alternative, the Board requested the assignment and reservation of an additional channel for non-commercial educational use. No oppositions were filed to this alternative request.

CONCLUSIONS

293. We believe the record supports the assignment and reservation of channels in Malone and Poughkeepsie for non-commercial educational use. Since we have assigned only one channel to these cities for commercial purposes, we are assigning Channel 66 to Malone and Channel 83 to Poughkeepsie and we are reserving these channels for use by non-commercial educational stations.[29]

294. In view of the total spectrum space available for use in this area, we do not believe the Board of Regents' request for the reservation of a second channel for non-commercial educational use in New York City is warranted. The assignments we have made herein permit practically no further assignments in this area in either the VHF or the UHF. This portion of the request of the Board of Regents is therefore denied.

295. On the basis of the foregoing, the reservations of channels for non-commercial educational use in Albany-Schenectady-Troy, Binghamton, Buffalo, Ithaca, New York City, Rochester, Syracuse and Utica-Rome are finalized.

FINAL RESERVATIONS

296. The following reservations for non-commercial educational use are adopted:

City	UHF Channel No.
Albany-Schenectady-Troy	*17
Binghamton	*46
Buffalo	*23
Ithaca	*14
Malone	*66
New York City	*25
Poughkeepsie	*83
Rochester	*21
Syracuse	*43
Utica-Rome	*25

Binghamton, New York

297. (a) **Proposed Assignments and Reservations.** In the Third Notice the Commission proposed the assignment of VHF Channel 12 and UHF Channels 40 and 46 for Binghamton, with Channel 46 reserved for non-commercial educational use.

(b) **Census Data.** The standard metropolitan area of Binghamton has a population of 184,000 and the City of Binghamton has a population of 81,000.

(c) **Existing Stations.** Clark Associates, Inc., is licensed for the operation of Station WNBF-TV on Channel 12.

(d) **Counterproposal of Binghamton Broadcasters, Inc.** Binghamton Broadcasters, Inc., proposed the additional assignment of Channel 7 to Binghamton. No other changes in the assignments proposed by the Commission in the Third Notice were requested.

(e) **Statement in Support of Binghamton Broadcasters, Inc. Counterproposal.** Binghamton Broadcasters, Inc., urged that the additional assignment of Channel 7 to Binghamton is necessary to achieve a fair and equitable distribution of television service. It was recognized by Binghampton Broadcasters, Inc., that a grant of its counterproposal would result in a co-channel assignment separation of 136 and 160 miles, respectively, to WJZ-TV, New York and Buffalo.

(f) **Oppositions. The American Broadcasting Company, Inc.,** New York, licensee of Station WJZ-TV, the Buffalo Courier Express, Inc., of Buffalo and Meredith Syracuse Television Corporation, licensee of Station WHEN at Syracuse, New York, opposed the Binghamton counterproposal.

Conclusions

298. The counterproposal of Binghamton Broadcasters, Inc., must be denied for the reason that it would result in co-channel assignment separations between Binghamton and WJZ-TV, New York and between Binghamton and Buffalo below the minimum provided by our decision herein for Zone I.

Final Assignments and Reservations

299. The following assignments and reservation are adopted:

City	VHF Channel No.	UHF Channel No.
Binghamton	12	40, *46

BUFFALO, NIAGARA FALLS, ITHACA, NEW YORK

300. **Proposed Assignments and Reservations.** In the Third Notice the Commission proposed the following assignments and reservations:

City	VHF Channel No.	UHF Channel No.
Buffalo	4, 7	17, *23
Niagra Falls	2	
Ithaca		*14, 20

Buffalo-Niagara Falls

301. (a) **Census Data.** The standard metropolitan area of Buffalo has a population of 1,089,000. The city of Buffalo has a population of 577,000. The city of Niagara Falls has a population of 91,000.

(b) **Existing Stations.** WBEN, Inc., is licensed for the operation of Station WBEN-TV on Channel 4 at Buffalo.

(c) **Joint Counterproposal of Buffalo Courier Express, Inc., WGR Broadcasting Corporation and WKBW, Inc.** Buffalo Courier Express, Inc., WGR Broadcasting Corporation and WKBW, Inc., have filed joint counterproposals requesting the assignment of Channels 2 and 9 by making the following changes in the assignments proposed by the Commission in the Third Notice:

[29] The Board of Regents also suggested that provision be made for share time operation as between non-commercial educational and other television services if no "reasonable solution to the problem" presented in Malone and Poughkeepsie could be found. In view of the fact that channels have now been reserved in these cities for use by non-commercial educational stations, this suggestion has been given no further consideration.

City	Third Notice VHF Channel No.	Third Notice UHF Channel No.	Counterproposal VHF Channel No.	Counterproposal UHF Channel No.
Buffalo	4,7	17,*23	2†,4,7,9†	17,*23
Niagara Falls	2		†	59† or 62†
Toronto, Ontario	6,9,11	19,25	6,8†,11	19,25
Owen Sound, Ontario	8	26	3†	26
Orillia, Ontario	3	30	12†	30

(d) **Statement in Support of Buffalo Joint Counterproposal.** In support of the request to delete Channel 2 from Niagara Falls and assign that channel to Buffalo it was contended that the assignment of Channel 2 to Niagara is in accordance with the Commission's proposals in other areas to assign VHF channels to the principal cities of metropolitan area rather than to the smaller cities within the metropolitan area. The proposal to assign Channel 9 to Buffalo would result in a co-channel separation of 169 miles between Toronto and Syracuse and an adjacent channel separation of 59 miles between Toronto and Buffalo.

(e) **Opposition to the Joint Counterproposal of Buffalo Courier Express, Inc., WGR Broadcasting Corporation and WKBW, Inc.** The Niagara Falls Gazette Publishing Company, Niagara Falls, New York, supported the proposed assignment of Channel 2 to Niagara Falls and opposed the Buffalo counterproposals to delete Channel 2 and substitute a UHF channel therefor.

Ithaca

302. (a) **Census Data.** The city of Ithaca has a population of 29,000.

(b) **Counterproposal of Cornell University.** Cornell University requested the assignment of Channel 3 to Ithaca by making the following changes in the assignments proposed by the Commission in the Third Notice:

City	Third Notice VHF Channel No.	Third Notice UHF Channel No.	Proposed Changes VHF Channel No.	Proposed Changes UHF Channel No.
Ithaca		*14, 20	3†	*14, 20
Niagara Falls	2		†	62†
Buffalo	4, 7	17, *23	2†, 7	17, *23
Rochester	5, 10	15, *21, 27	4†, 10	15, *21, 27
Syracuse	3, 8	*43	5†, 8	*43

(c) **Statement in Support of Cornell Counterproposal.** Cornell contended that priorities 1, 2 and 3 are effectuated by its proposal and that UHF is not feasible in the irregular terrain in Ithaca.

(d) **Opposition to Cornell Counterproposal.** WBEN, Inc., (WBEN-TV), Buffalo, New York, WAGE, Inc., Syracuse, New York, the Brockway Company, Watertown, New York, the Buffalo Courier Express, Inc., and the Niagara Falls Publishing Company opposed the Cornell counterproposal. Gable Broadcasting Company, Altoona, Pa., filed a conflicting counterproposal.

Conclusions

303. The foregoing counterproposals consist of requests for the assignment of additional channels to Buffalo and to Ithaca, respectively, by the deletion of Channel 2 from Niagara Falls and by making the other changes in the assignments proposed in the Third Notice, set forth above.

304. The joint counterproposal of the Buffalo parties requesting the assignment of Channel 9 to that city would result in a co-channel separation of 169 miles between Toronto and Syracuse and an adjacent separation of 59 miles between Toronto and Buffalo. This counterproposal is denied for the reasons set forth above in the discussion of Canadian-United States assignments.

305. With respect to the assignments proposed for Buffalo and for Niagara Falls it is our view based on the record that Buffalo and Niagara Falls should be considered as a single entity for assignment purposes in view of the proximity and strong identity of interests of these cities. Niagara Falls is situated 17 miles from Buffalo. In the 1940 census these cities were included in the "Buffalo-Niagara Falls metropolitan district"; and in the 1950 census Niagara Falls was included within the Buffalo metropolitan area. Further, we believe that the assignment of an additional UHF channel to Buffalo-Niagara Falls is warranted. Accordingly, Channel 59 is assigned to these cities. Channel 23, reserved for educational use, and Channel 17 are only available for assignment in Buffalo because of the effect of use of these channels in Niagara Falls upon Canadian assignments.

306. With respect to the counterproposal of Cornell University, we do not believe the record warrants the deletion of a VHF channel from Niagara Falls and Buffalo, cities with a combined population of over 600,000, in order to create a VHF assignment for Ithaca, a city of 29,000.

307. In view of the foregoing, the counterproposal of Cornell University is denied and the joint counterproposal of Buffalo Courier Express, Inc., WGR Broadcasting Corporation, Inc., and WKBW, Inc., is granted in part and denied in part.

Final Assignments and Reservations

308. The following assignments and reservations are adopted:

City	VHF Channel No.	UHF Channel No.
Buffalo-Niagara Falls	2, 4, 7	59
Buffalo		17, *23
Ithaca		*14, 20

WATERTOWN AND SYRACUSE, NEW YORK

309 (a) **Proposed Assignments and Reservations.** In the Third Notice the Commission proposed the following assignments and reservations:

City	VHF Channel No.	UHF Channel No.
Watertown		35
Syracuse	3, 8	*43

(b) **Census Data.** The city of Watertown has a population of 34,000. The standard metropolitan area of Syracuse has a population of 342,000. The City of Syracuse has a population of 221,000.

(c) **Existing Stations.** Central New York Broadcasting Corp., is licensed for operation of WSYR-TV, Syracuse, on Channel 5. The Commission ordered the licensee to show cause why the license of WSYR-TV should not be modified to specify operation on Channel 3 in lieu of Channel 5. Central New York Broadcasting Corp. stated it had no objection to modification of its license. Meridith Syracuse Television Corporation has a construction permit for station WHEN on Channel 8 in Syracuse, and is operating under special temporary authorization.

Watertown

310. (a) **Counterproposal of The Brockway Company.** The Brockway Company requested the additional assignment of VHF Channel 11 to Watertown by making the following changes in the assignments proposed bf the Commission in the Third Notice:

City	Third Notice VHF Channel No.	Third Notice UHF Channel No.	Plan 1 VHF Channel No.	Plan 1 UHF Channel No.	Plan 2 VHF Channel No.	Plan 2 UHF Channel No.
Watertown		35	11†	35	11†	35
Ottawa-Hull, Ontario	4, 9, 11	30, 40	4, 5†, 9	30, 40	4, 7†, 9	30, 40
Montreal-Verdun, Quebec	2, 6, 7, 10, 12	15, 44			2, 6, 8†, 10, 12	15, 44
Hamilton, Ontario	13	51, 57			11†	51, 57
Toronto, Ontario	6, 9, 11	19, 25			6, 9, 13†	19, 25

(b) **Statement in Support of the Brockway Company Counterproposal.** Brockway Company urged that its counterproposal would provide a first VHF assignment to the area of New York State commonly known as the "North Country." Plan 1 would result in a co-channel separation on Channel 11 of 174 miles between Watertown and Toronto and a co-channel separation of 179 miles on Channel 5 between Ottawa-Hull and Rochester. Plan 2 would result in the co-channel separation of 230 miles between Buffalo and Ottawa-Hull on Channel 7 and 195 miles on Channel 8 between Lewiston and Montreal-Verdun and 187 miles between Pembroke and Toronto on Channel 13. In addition Plan 2 would result in an adjacent channel separation of 72 miles between London on Channel 10 and Hamilton on Channel 11.

(c) **Oppositions and Conflicting Counterproposals to the Brockway Counterproposal.** The following parties filed oppositions and conflicting counterproposals: Travelers Broadcasting Service Corporation, Hartford, Connecticut; Hartford Times, Inc., Hartford, Connecticut; Greylock Broadcasting Company, Pittsfield, Massachusetts; Hampden-Hampshire Corp., Holyoke, Massachusetts; Regional TV Corporation, Springfield, Massachusetts and WAGE, Inc., Syracuse, New York.

Syracuse

311. (a) **Counterproposal of WAGE, Inc.** WAGE, Inc. requested the additional assignment of VHF Channel 11 to Syracuse by making the following changes in the assignments proposed in the Third Notice:

City	Third Notice VHF Channel No.	Third Notice UHF Channel No.	Counterproposal VHF Channel No.	Counterproposal UHF Channel No.
Syracuse, N. Y.	3, 8	*43	3, 8, 11†	*43
Hamilton, Ont.	13	51, 57	11†	51, 57
Toronto, Ont.	6, 9, 11	19, 25	6, 9, 13†	19, 25
Ottawa-Hull, Ont.	4, 9, 11	30, 40	4, 5†, 9	30, 40
Pembroke, Ont.	13	32	11†, 13	32

(b) The counterproposal of WAGE would result in a co-channel assignment separation of 18 miles between Hamilton and Syracuse on Channel 11, 187 miles between Pembroke and Toronto on Channel 13, 183 miles between Rochester and Ottawa-Hull on Channel 5 and 187 miles between Toronto and Pembroke on Channel 11. In addition it would result in an adjacent channel assignment separation of 72 miles between London and Hamilton.

(c) **Oppositions and Conflicting Counterproposals to the WAGE Counterproposal.** The following parties submitted oppositions and conflicting counterproposals to the counterproposal of WAGE, Inc.: Clark Associates, Inc. (WNBF-TV), Binghamton, New York, and the Brockway Company, Watertown, New York.

Conclusions

312. The foregoing counterproposals must be rejected for the reasons set forth above in the discussion of Canadian-United States assignments. Accordingly, the counterproposal of the Brockway Company and WAGE, Inc., must be denied.

313. An appropriate authorization to Central New York Broadcasting Corporation will be issued to specify operation on WSYR-TV on Channel 3.

Final Assignments and Reservations

314. The following assignments and reservation are adopted:

City	VHF Channel No.	UHF Channel No.
Watertown		48 [78]
Syracuse	3, 8	*43

[78] Channel 48 has been assigned to Watertown in view of our action below granting the joint alternative counterproposal of Meredith Champlain Television Corp., and Troy Broadcasting Co., Inc., which requested in part the substitution of UHF Channel 48 for UHF Channel 35 in Watertown.

CORNING, NEW YORK

315. (a) **Proposed Assignments.** In the Third Notice no assignments were proposed for Corning.

(b) **Census Data.** The city of Corning has a population of 18,000.

(c) **Counterproposal of Corning Leader, Inc.** Corning Leader, Inc. requested the assignment of VHF Channel 9 to Corning. This assignment would require no other changes in the assignments proposed by the Commission in the Third Notice.

(d) **Statement in Support of Corning Leader Counterproposal.** Corning Leader urged that its counterproposal would meet the Commission's standards, with the exception of a separation of 15

miles between Corning and Toronto on Channel 9.

(e) **Oppositions and Conflicting Counterproposal to the Corning Leader Counterproposal.** The following parties filed oppositions and conflicting counterproposals to the counterproposal of Corning Leader: Buffalo Courier Express, Inc.; WGR Broadcasting Corporation and WKBW, Inc., all of Buffalo.

Conclusion

316. The foregoing counterproposal of Corning Leader is denied for the reasons set forth in the discussion of Canadian-United States assignments.

ROCHESTER, NEW YORK

317. **Existing Station.** Stromberg-Carlson is licensed for the operation of Station WHAM-TV, Rochester, on Channel 6. The licensee was ordered to show cause why the license of WHAM-TV should not be modified to specify Channel 5 in lieu of Channel 6. The licensee has filed no objection to the show cause order.

Conclusion

318. In view of the foregoing, an appropriate authorization to Stromberg-Carlson will be issued to specify operation of WHAM-TV on Channel 5.

ALBANY-SCHENECTADY-TROY, NEW YORK

319. (a) **Proposed Assignments and Reservation.** In the Third Notice the Commission proposed three channels to Albany-Schnectady-Troy: VHF Channel 6 and UHF Channels *17 and 23.

(b) **Census Data.** The standard metropolitan area of Albany-Schenectady-Troy has a population of 514,000 and the cities of Albany, Schnectady and Troy have populations of 135,000, 92,000 and 72,000, respectively.

(c) **Existing Stations.** General Electric Co. is licensed to operate Station WRGB, Schnectady, on Channel 4. The Commission ordered the licensee to show cause why the license of WRGB should not be modified to specify operation on Channel 6 in lieu of Channel 4. General Electric has not filed any objection to the order.

(d) **Counterproposals of Meredith Champlain Television Corp. and Troy Broadcasting Co., Inc.** Meridith Champlain Television Corp., and Troy Broadcasting Co., Inc. requested the additional assignment of one or more UHF channels to Albany-Schnectady-Troy by making the following alternative changes in the assignments proposed by the Commission in the Third Notice:

	Third Notice		Troy Counterproposal	
City	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.
Albany-Schenectady-Troy	6	*17,23	6	*17,23,41†
Oneonta		48		62†

	Third Notice		Meredith Counterproposal	
City	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.
Albany-Schenectady-Troy	6	*17,23	6	*17,23
Schenectady				35†,41†
Watertown		35		62†

	Third Notice		Alternate Joint Counterproposal	
City	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.
Albany-Schenectady-Troy	6	*17,23	6	*17,23, 35†, 41†
Oneonta		48		62†
Watertown		35		48†

Conclusion

320. With the exception of UHF Channel 35, the rearrangement of the channels requested in the joint alternative counterproposal can be accomplished without prejudice to the assignments proposed for any other city. Channel 35, under the separation standards adopted herein for the UHF, can be assigned only to Schenectady. In view of the size and importance of the tri-city area we believe the assignment of 2 additional UHF channels to Albany-Schenectady-Troy is warranted. An appropriate authorization will be issued to General Electric Company to specify operation of WRGB on Channel 6.

Final Assignments and Reservation

321. The following assignments and reservation are adopted.

City	VHF Channel No.	UHF Channel No.
Albany-Schenectady-Troy	6	*17,23,41
Schenectady		35
Watertown		48
Oneonta		62

KINGSTON, NEW YORK

322. (a) **Proposed Assignments.** In the Third Notice the Commission did not propose any assignments to the city of Kingston.

(b) **Census Data.** The city of Kingston has a population of 29,000.

(c) **Counterproposal of Kingston Broadcasting Corporation.** Kingston Broadcasting Corporation requests that Channel 66 be assigned to Kingston.

(d) **Statement in Support of the Kingston Broadcasting Corp. Counterproposal.** Kingston Broadcasting Corp. stated that other less populated communities in the states of New York, Massachusetts and Connecticut have been assigned one or more channels.

Conclusion

323. The Commission believes that the record supports the assignment of a channel to Kingston, New York. Accordingly, the counterproposal of Kingston Broadcasting Corp. is granted.

Final Assignment

324. The following assignment is adopted:

City	UHF Channel No.
Kingston	66

NEWARK, NEW JERSEY AND NEW YORK, NEW YORK

325. (a) **Proposed Assignments and Reservation.** In the Third Notice the Commission proposed the following assignments and reservation.

City	VHF Channel No.	UHF Channel No.
Newark	13	
New York City	2,4,5,7,9,11	19,*25,31

(b) **Census Data.** The standard metropolitan area of New York-Northeastern New Jersey has a population of 12,912,000. The cities of Newark and New York have populations of 439,000 and 7,892,000, respectively.

(c) **Existing Stations.** Bremer Broadcasting Corporation has a construction permit for Station WATV, Newark, on Channel 13, and is operating under special temporary authorization; Allen B. DuMont Laboratories, Inc., is licensed for Station WABD, New York City, on Channel 5; Columbia Broadcasting System, Inc., is licensed for Station WCBS-TV, New York City, on Channel 2; American Broadcasting Co., Inc., has a construction permit for Station WJZ-TV, on Channel 7 in New York City, and is operating under special temporary authorization; National Broadcasting Company is licensed for Station WNBT, New York City, on Channel 4; Don Lee Broadcasting System is licensed for Station WOR-TV, New York City, on Channel 9; WPIX, Inc. has a construction permit for Station WPIX, New York City, on Channel 11 and is operating under special temporary authorization.

(d) **Counterproposal of Bremer Broadcasting Corporation.** Bremer Broadcasting Corporation requested that instead of separate assignments for Newark and New York City, the Commission retain the area designation contained in the existing rules and regulations and assign all the channels to the New York-Northeastern New Jersey area.

(e) **Statement in Support of the Bremer Counterproposal.** It was asserted that inasmuch as the 1950 census records list New York and Northeastern New Jersey as one metropolitan area, separate assignments of channels in such an undivided metropolitan area is unreasonable and would not constitute a fair, efficient and equitable distribution of radio facilities. Bremer contended that there is no inconsistency in its being licensed to serve the New Jersey area in particular, while at the same time it serves the whole New York-Northeastern New Jersey metropolitan area; and that assigning Channel 13 to New York-Northeastern New Jersey metropolitan area would be "without diminution of [its] obligation to render an adequate electrical and acceptable program service to Newark and Northeastern New Jersey."

(f) **Opposition.** WPIX, Inc. opposed the Bremer counterproposal and supported the Commission's assignments for Newark and New York City. WPIX asserted that WATV was licensed as a Newark station and that Channel 13 should be classified as a channel assigned to Newark.

Conclusions

326. We do not believe that any basis has been established in this record for the assignment of channels to the New York-Northeastern New Jersey area. Prior to the amendment of the Table of Assignments in this proceeding. Section 3.606 of the Commission's Rules provided for the assignment of channels to metropolitan districts as defined in the 1940 census. The assignments proposed in the Third Notice, however, and the final assignments adopted herein, have been made to particular cities only, and our Rules have been predicated upon assignments to cities and not to areas. Further, upon the basis of the record we are not convinced that such common interests exist between New York City, New York and Newark, New Jersey so as to warrant the treatment of these cities as one community for assignment purposes. Accordingly, Channel 13 has been assigned to Newark and not to the New York-Northeastern New Jersey area or to New York City and Newark jointly.

FINAL ASSIGNMENTS AND RESERVATIONS[71]

327. The following assignments and reservation are adopted:

City	VHF Channel No.	UHF Channel No.
New York, N. Y.	2,4,5,7,9,11	*25, 31
Newark, N. J.	13	

STATE OF NEW JERSEY EDUCATIONAL RESERVATIONS

328. (a) **Proposed Reservations.** In the Third Notice the Commission did not propose the reservation of any channels in New Jersey communities for non-commercial educational use.

(b) **Counterproposal of State of New Jersey.** The Commissioner of Education, State of New Jersey, requested that UHF channels be assigned to Andover, New Brunswick, Montclair, Hammonton, Freehold and Camden. The request was based upon a survey made by DuMont, RCA and General Electric engineers indicating that six UHF stations would be needed to give complete non-commercial educational coverage to the state. It was represented that the State of New Jersey intends to commence immediately the construction of a station on the campus of Rutgers University, New Brunswick, and to proceed with other construction as rapidly as feasible. The cost of construction and operation for one year of one station was estimated at $500,000. It was noted that the State believes this amount can be raised, pointing to the 1950-1951 public school budget of $130,825,000.00 as an indication of financial resources of the State. The Commission was advised that the Board of Trustees of Rutgers University, the State University of New Jersey, adopted a resolution on June 8, 1951, indicating its desire to locate an educational television station on the campus, offering to make land available, without charge, and promising the full support of its faculty. Rutgers also submitted as part of the State's presentation, a suggested list and description of programs suitable for presentation over a station located on the campus. No objection was filed to these proposals.

Conclusions

329. On the basis of the showing made by the State of New Jersey, the Commission has reserved the following channels for use by noncommercial educational television stations: New Brunswick, Channel 19, Hammonton, Channel 70, Montclair, Channel 77, Camden,

[71] With respect to UHF Channel 19, see the discussion of the New Jersey educational reservations below.

Channel 80, Freehold, Channel 74, and Andover, Channel 69. The assignment of UHF Channel 19 to New Brunswick, N. J. for educational purposes is made possible by the deletion of that channel from use in New York City as was proposed in the Third Notice. It is believed that the remaining channels in New York City are as many as should appropriately be assigned there, considering the needs of adjoining communites.

Final Assignments and Reservations

330. The following assignments and reservations are adopted:

City	UHF Channel No.
New Brunswick, N. J.[72]	*19,47
Hammonton, N. J.	*70
Montclair, N. J.	*77
Camden, N. J.	*80
Freehold, N. J.	*74
Andover, N. J.	*69

BALTIMORE, MD. AND WASHINGTON, D. C. EDUCATIONAL RESERVATIONS

331. **Proposed Reservations.** In the Third Notice the Commission proposed the reservation of Channel 24 in Baltimore and Channel 26 in Washington. Statements in support of the reservation of Channel 24 in Baltimore and Channel 26 in Washington for non-commercial educational use were filed by educational, civic and religious institutions of Baltimore, and Washington, respectively. No objections to the reservations were filed.

Conclusions

332. On the basis of the foregoing, the reservation of Channels 24 in Baltimore and 26 in Washington for non-commercial educational use are finalized.

SCRANTON AND HARRISBURG PENNSYLVANIA

333. (a) **Proposed Assignments.** In the Third Notice the Commission proposed the following assignments:

City	VHF Channel No.	UHF Channel No.
Scranton		16,22
Harrisburg		27,33

(b) **Census Data.** The standard metropolitan area of Scranton has a population of 257,000 and the city of Scranton has a population of 126,000. The standard metropolitan area of Harrisburg has a population of 292,000 and the city of Harrisburg has population of 90,000.

(c) **Counterproposal of The Patriot News Company.** The Patriot News Company requested that one or more channels in the 782 to 890 Mc. band be assigned to Harrisburg. It appears that UHF channels below 66 cannot be used because of other assignments in the area.

(d) **Statement in Support of The Patriot News Company.** The Patriot News Company contended that the Harrisburg metropolitan area is the 57th largest metropolitan area in the United States; that Harrisburg presently supports three AM and two FM stations; that the metropolitan area supports five AM and two FM stations; that there are presently on file two applications for television facilities in Harrisburg; and that The Patriot News also proposes to file an application for a television station in that city.

(e) **Counterproposal of The Scranton Times.** The Scranton Times requested that one or more channels in the 782-890 Mc. band be assigned to Scranton. It appears that UHF channels below 66 cannot be used because of other assignments in the area.

(f) **Statement in Support of The Scranton Times Counterproposal.** The Scranton Times contended that Scranton is the fourth largest city in Pennsylvania; that it is the 73rd largest metropolitan area in the United States; that it now supports four AM and two FM stations; and that the metropolitan area now supports five AM and three FM stations.

Conclusions

334. On the basis of the record, we believe the additional assignment of a UHF Channel to Harrisburg and Scranton is warranted. Accordingly the counterproposals of The Patriot News Company and The Scranton Times are granted and we are assigning UHF Channel 71 to Harrisburg and UHF Channel 73 to Scranton.

Final Assignments

335. The following assignments are adopted:[73]

City	UHF Channel No.
Harrisburg	16, 22,71
Scranton	27, 33, 73

READING AND LEBANON, PA.

336. (a) **Proposed Assignments.** In the Third Notice the Commission proposed the assignment of two channels to Reading: UHF Channels 55 and 61, and one channel to Lebanon: UHF Channel 15.

(b) **Census Data.** The standard metropolitan area of Reading has a population of 256,000 and the City of Reading has a population of 109,000. The City of Lebanon has a population of 28,000.

(c) **Counterproposal of Eastern Radio Corporation of Reading.** Eastern Radio Corporation requested the assignment of UHF Channel 15 in Reading in substitution for UHF Channel 55 to be accomplished by the substitution of UHF Channel 55 in Lebanon for UHF Channel 15. It was urged that a better and greater coverage would result from the operation of Channel 15 at Reading rather than that on Channel 55.

(d) **Oppositions to Eastern Radio Counterproposal.** The Lebanon Broadcasting Company, Lebanon, Pennsylvania, and Scranton Times, Scranton, Pennsylvania, opposed the counterproposal of Eastern Radio Corporation.

Conclusions

337. The record contains no basis for distinguishing between channels in the UHF band for the purpose of establishing a Table of Assignments. Accordingly, the counterproposal of Eastern Radio Corporation is denied.

Final Assignments

338. The following assignments are adopted:

City	UHF Channel No.
Reading	55, 61
Lebanon	15

PHILADELPHIA, LANCASTER, PENNSYLVANIA; WILMINGTON, DELAWARE

339. (a) **Proposed Assignments and Reservations.** In the Third Notice the Commission proposed the following assignments and reservations:

City	VHF Channel No.	UHF Channel No.
Philadelphia, Pa.	3, 6, 10	17, 23, 29, *35
Lancaster, Pa.	8	21
Wilmington, Del.	12	53, *59

(b) **Census Data.** The standard metropolitan areas of Philadelphia, Lancaster, and Wilmington have populations of 3,671,000, 235,000 and 268,000, respectively. The cities of Philadelphia, Lancaster and Wilmington have populations of 2,072,000, 64,000 and 110,000, respectively.

(c) **Existing Stations.** WCAU, Inc. is licensed for station WCAU-TV, Philadelphia, on Channel 10; Triangle Publications, Inc. is licensed for Station WFIL-TV, Philadelphia, on Channel 6; Philco Television Broadcasting Corp. is licensed for Station WPTZ, Philadelphia, on Channel 3; WGAL, Inc. is licensed for Station WGAL-TV, Lancaster, on Channel 4; WDEL, Inc. is licensed for Station WDEL-TV, Wilmington, on Channel 7.

(d) WGAL, Inc. was ordered to show cause why the license of Station WGAL-TV should not be modified to specify Channel 8 in lieu of Channel 4 and WDEL, Inc. was ordered to show cause why the license of Station WDEL-TV should not be modified to specify Channel 12 in lieu of Channel 7.

(e) **Counterproposal of the Pennsylvania Broadcasting Company, Daily News Television Company, The City of Philadelphia, and Philadelphia Chamber of Commerce.** The counterproposal of the Pennsylvania Broadcasting Company requested the additional assignment of Channel 12 to Philadelphia to be accomplished by substituting Channel 4 in Lancaster for Channel 8, and making other changes in the assignments proposed by the Commission in the Third Notice. The counterproposal requested that Station WGAL-TV, now operating on Channel 4 in Lancaster be continued on that channel with low power, or with directional antenna in the event that an increase of power is authorized. Daily News Television Company requested the additional assignment of Channel 8 or 12 to Philadelphia. Following are the changes that would be made in the assignments proposed by the Commission in the Third Notice:

City	Third Notice VHF Channel No.	Third Notice UHF Channel No.	Pennsylvania Broadcasting Co. Counterproposal VHF Channel No.	Pennsylvania Broadcasting Co. Counterproposal UHF Channel No.
Philadelphia, Pa.	3, 6, 10	17, 23, 29, *35	3, 6, 10, 12†	17, 23, 29, *35
Lancaster, Pa.	8	21	4†	21
Wilmington, Del.	12	53, *59	8†	53, *59

City	Daily News[74] Plan 1 VHF Channel No.	Daily News Plan 1 UHF Channel No.	Daily News Plan 2 VHF Channel No.	Daily News Plan 2 UHF Channel No.
Philadelphia, Pa.	3, 6, 10, 12†	17, 23, 29, *35	3, 6, 8†, 10	17, 23, 29, *35
Lancaster, Pa.	8	21	†	21 (plus UHF†)
Wilmington, Del.	†	53, *59 plus UHF†	12	53, *59

The city of Philadelphia and the Philadelphia Chamber of Commerce[75] supported the counterproposals seeking the addition of VHF Channels 8 or 12 for Philadelphia and adopted the engineering proposals of Daily News Television Company and Pennsylvania Broadcasting Company.

(f) **Statements in Support of Philadelphia Counterproposals.** The Philadelphia parties asserted that the size, wealth and industry of the city required an additional VHF channel; that an additional

[72] In the Third Notice the Commission proposed one channel, UHF Channel 47, for New Brunswick, N. J.

[73] No request was made on the record for an educational reservation in either Scranton or Harrisburg.

[74] Daily News proposed two additional plans for the assignment of Channel 12 in Philadelphia. One plan required the substitution of Channel 8 in Wilmington for Channel 12 and the other plan required the substitution of Channel 7 in Wilmington for Channel 12. Daily News admitted, however, that its proposal for the assignment of Channel 12 to Philadelphia by the assignment of Channel 7 to Wilmington was not technically feasible and did not urge the proposal further. No consideration has, therefore, been given this proposal in this Report.

The request for the assignment of Channel 12 to Philadelphia by the assignment of Channel 8 to Wilmington was made by Daily News for the first time in its sworn statement. WGAL, Inc., WDEL, Inc., and Elm City Broadcasting Corporation filed Motions to Strike those portions of the sworn statement of the Daily News Television Company which introduced the new proposal. Paragraphs 5(b), 6, and 7 of the Order of Hearing Procedure issued in this proceeding on July 2, 1951, make clear that upon proper objection, the Commission cannot consider evidence presented in sworn statements, filed pursuant to Paragraph 5(b) of the Order of Hearing Procedure, which does not fall within the scope of the issues raised by the pleadings in response to Paragraph 3 of the Third Notice. The Motions to Strike testimony with respect to the assignment of Channel 8 in Wilmington are GRANTED. Accordingly, no further consideration has been given the request. Since the original proposal of Daily News requested the assignment of Channel 8 in Philadelphia, so far as the Motions to Strike are addressed to this part of the counterproposal, they are DENIED.

[75] WGAL, Inc., and WDEL, Inc., on September 25, 1951, filed with the Commission identical Motions to Strike portions of the testimony in the sworn statement of Albert M. Greenfield, President of the Chamber of Commerce of Greater Philadelphia. The Commission is of the opinion that the objections go to the weight to be given to the evidence and not to its admissibility, materiality or competency. The Motions to Strike are DENIED.

[76] WGAL, Inc., and WDEL, Inc., on September 25, 1951, filed with the Commission Motions to Strike directed against all of the evidence contained in the sworn statement of Edward D. Barlow and Arthur Borowsky, filed with the Commission on behalf of Daily News Television Company. These Motions to Strike go to the weight to be given to the evidence and not to its admissibility, materiality or competency. For this reason, the Motions to Strike are DENIED.

WGAL, Inc., and WDEL, Inc., filed substantially identical Motions to Strike testimony from the affidavit of Benedict Gimbel, Jr., President of Pennsylvania Broadcasting Company, and certain testimony and exhibits from the affidavit of Virginia R. Erwin, engineering affiant of Pennsylvania Broadcasting Company. The Motions to Strike Mr. Gimbel's testimony go only to the weight to be given to the evidence and not to its admissibility, materiality and competency. The Motions to Strike portions of Erwin's sworn statement is made on the ground that since the Pennsylvania Broadcasting Company did not file a proper proposal to change Paragraph D-1, Appendix A of the Third Notice it cannot under Paragraph 7 of the Order of Hearing Procedure now introduce evidence which is inconsistent with Appendix A. We find, however, that the original proposal of May 7, 1951 was in conformity with Paragraph D-1, Appendix A and that the statement of affiant Virginia Erwin is consistent with previous pleadings since it merely elaborates upon the original proposal. The Motions to Strike are DENIED.

VHF channel would provide Philadelphia outlets for the four existing networks; and that a fourth VHF channel would better serve the demands of advertisers for sufficient broadcast time. In support of these contentions, there has been submitted economic data concerning population, income, industry and number of television receivers in use, with particular emphasis on comparison with the Wilmington and Lancaster markets.

(g) The counterproposal of Pennsylvania Broadcasting Company for the additional assignment of Channel 12 to Philadelphia would retain WGAL-TV on Channel 4 in lieu of Channel 8 as proposed by the Commission. This would result in a co-channel assignment separation of 132 miles between WGAL-TV and WNBT, New York City, and 86 miles between WGAL-TV and WNBW, Washington. The counterproposal of Daily News Television Company for the additional assignment of Channel 8 to Philadelphia would result in a co-channel separation of 152 miles between Philadelphia and WNHC-TV, New Haven, Connecticut.

(h) **Oppositions to Philadelphia Counterproposals.** Binghamton Broadcasters, Inc. and Clark Associates, Inc., (WNBF-TV) both of Binghamton, opposed the requests to assign Channel 12 to Philadelphia. The Elm City Broadcasting Corp. (WNHC-TV), New Haven, and Peoples Broadcasting Corp., Lancaster, opposed the requests to assign Channel 8 to Wilmington. NBC, Inc., opposed the request to assign Channel 4 to Lancaster. WDEL, Inc., and WGAL, Inc., opposed all the Philadelphia counterproposals. Hearst Radio, Inc., opposed the assignment of Channel 12 to Wilmington for the reason that a co-channel separation of 156.3 miles would be created between WDEL-TV and WNBF-TV, Binghamton and an adjacent channel separation of 68.8 miles between Baltimore and Wilmington.

(i) **Answers to 'Show Cause Orders.** WGAL, Inc., and WDEL, Inc., supported the Commission's proposed assignments for Lancaster and Wilmington, respectively, and agreed to the modifications of the licenses of their respective stations specified in the Commission's show cause orders.

(j) **The Philadelphia Educational Reservation.** The Philadelphia Board of Education supported the reservation of Channel 35 for noncommercial educational use, although it stated that VHF would have been preferred. The Board declared that it has been a leader in educational television and maintains a full-time professional staff devoted to producing radio and television programs on existing commercial stations. The Executive Committee on Educational Television supported the Board of Education in its proposal for the mutual utilization of television facilities. No objections have been filed to the proposed reservation.

(k) **The Wilmington Educational Reservation.** The Wilmington Board of Public Education supported the proposed reservation of Channel 59 in Wilmington for noncommercial educational use. The Board filed copies of letters from leading educational institutions and civic organizations supporting the proposed reservation. The Board declared that the financing of the station would be shared by all participating educational agencies; that steps have already been taken to determine the cost of constructing and operating a television station; and that it has produced a number of educational programs over the local commercial television station and feels that it has the experience and resources to operate its own station. No objections have been filed to this proposed reservation.

Conclusions: The Educational Reservations

340. On the basis of the record, the reservations of Channel 35 in Philadelphia and Channel 59 in Wilmington for non-commercial educational use are finalized.

Conclusions: Requests for VHF Channels 8 and 12 in Philadelphia

341. The counterproposals of Pennsylvania Broadcasting Company and Daily News Television Company, and the supporting counterproposals of the City of Philadelphia and the Philadelphia Chamber of Commerce would assign VHF Channel 8 or 12 to Philadelphia by either (a) retaining a VHF assignment in Lancaster on Channel 4 with low power, or with a directional antenna in the event increased power is authorized; or (b) shifting the Wilmington or Lancaster VHF assignment to a UHF channel. No specific UHF channel is proposed but it is indicated that a channel in the 782-890 Mc band would have to be used.

342. We do not believe that a grant of any of the foregoing counterproposals is warranted. We recognize the size and importance of the City of Philadelphia and the need for the encouragement of economic competition; nevertheless, it is our view that under the circumstances presented the assignment of a fourth VHF channel to Philadelphia would not justify the deletion of the sole VHF channel from cities as large and as important as Lancaster or Wilmington.

343. Moreover, in the case of Lancaster, the public would lose its only available local VHF service, and in the case of Wilmington, the state of Delaware would lose its only local VHF service; existing set owners would be required to convert to continue to get their local service. While the effect of assignment changes on existing sets is not a determinative factor here, the Commission is unable to find the deletion of such existing local service is warranted in order to provide a fourth VHF assignment to the City of Philadelphia.

344. There remains for consideration the use of directional antennas or operation of a low powered station in Lancaster in order to provide a fourth VHF channel to the City of Philadelphia. We have held in another part of this Report that all stations provided for in the Assignment Table must be able to operate with maximum power. Indeed, operation in Lancaster with the power proposed by Pennsylvania Broadcasting Company at the existing antenna height would not satisfy the minimum power requirements provided for in the Rules. We have also held, for the reasons stated elsewhere in this Report, that assignments must be based on operation without directional antennas. For these reasons, the Commission cannot provide an assignment at Lancaster based on use of a directional antenna or low power.

345. In view of the foregoing, the counterproposals of Pennsylvania Broadcasting Company, Daily News Television Company, The City of Philadelphia and the Philadelphia Chamber of Commerce are denied.

346. An appropriate authorization to WDEL, Inc., will be issued to specify operation of WDEL-TV on Channel 12. The pleadings filed by Peoples Broadcasting Co. with respect to the WGAL, Inc. show cause order have been considered elsewhere.

Final Assignments and Reservations

347. The following assignments and reservations are adopted:

City	VHF Channel No.	UHF Channel No.
Philadelphia, Pa.	3, 6, 10	17, 23, 29, *35
Lancaster, Pa.	8	21
Wilmington, Del.	12	53, *59

City	Third Notice		Proposed Changes	
	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.
Pittsburgh, Pa.	2, 11, *13	47, 53	2, 4†, 9†, 11, *13	47, 53
Wheeling, W. Va.	7, 9	*57	7, †	*57

PITTSBURGH, BRADDOCK, McKEESPORT, WASHINGTON, PENNSYLVANIA; WHEELING, WEST VIRGINIA; STEUBENVILLE, OHIO

348. (a) **Proposed Assignments and Reservations.** In the Third Notice the Commission proposed the following assignments and reservations:

City	VHF Channel No.	UHF Channel No.
Pittsburgh, Pa.	2, 11, *13	47, 53
Washington, Pa.		63
Wheeling, W. Va.	7, 9	*57
Steubenville, Ohio		51

No channels were proposed to be assigned to Braddock, or McKeesport.

(b) **Counterproposals.** Counterproposals have been filed by various parties in these proceedings seeking the assignment of one or more additional VHF channels to Pittsburgh and a first VHF channel to Braddock, McKeesport, Washington and Steubenville.

Pittsburgh

349. (a) **Census Data.** The standard metropolitan area of Pittsburgh has a population of 2,213,000 and the city of Pittsburgh has a population of 677,000.

(b) **Existing Station.** Allen B. DuMont Laboratories is licensed for the operation of Station WDTV, Pittsburgh on Channel 3. The Commission ordered the licensee to show cause why the license of WDTV should not be modified to specify operation on Channel 2, in lieu of Channel 3. DuMont has not objected to this modification of the license of WDTV.

(c) **Counterproposal of WWSW, Inc.** WWSW, Inc. requested the additional assignment of Channel 4 to Pittsburgh. No other changes of the assignments proposed by the Commission in the Third Notice would be required.

(d) **Statement in Support of Counterproposal of WWSW, Inc.** WWSW, Inc., stated that adequate competition should be established in Pittsburgh as soon as possible; that there are more than 300,000 VHF receivers in use in Pittsburgh; and that UHF stations can be established only after considerable delays. Finally, it was urged that the irregular terrain of the Pittsburgh area is such that considerable experimentation would be required prior to the utilization of the UHF band.

(e) **Counterproposal of Westinghouse Radio Stations, Inc.** Westinghouse Radio Stations, Inc., requested the additional assignment of Channel 4 and Channel 9 to Pittsburgh. The assignment of Channel 4 would require no other changes and the assignment of Channel 9 would be accomplished by making the following changes in the assignments proposed by the Commission in the Third Notice:

City	Third Notice		Proposed Changes	
	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.
Pittsburgh, Pa.	2, 11, *13	47, 53	2, 4†, 9†, 11, 13	47, *53 (or *47, 53)
Wheeling, W. Va.	7, 9	*57	7, †	*57

(f) **Statement in Support of Counterproposal of Westinghouse Radio Stations, Inc.** Westinghouse Radio Stations, Inc., stated that, "The 8th ranking city of the United States [Pittsburgh] needs and demands television service from more than 4 commercial stations. The diversified economic and cultural interest of a population mass of this size will not only support, but actually demand, service from at least 6 television stations."

(g) **Counterproposal of Allegheny Broadcasting Corporation.** Allegheny Broadcasting Corporation requested the additional assignment of Channel 4 and Channel 9 to Pittsburgh, and a change in the educational reservation for Pittsburgh from VHF Channel 13 to UHF Channel 47 or 53. The assignment of Channel 4 would require no other changes; and the assignment of Channel 9 would be accomplished by making the following changes in the assignments proposed by the Commission in the Third Notice:

(h) **Statement in Support of Counterproposal of Allegheny Broadcasting Corporation.** Allegheny Broadcasting Corporation asserted that its "proposals are reasonable and the adoption of either or all will provide more and better television service than will the plan proposed by the Commission" and that "Section 307(b) of the Communications Act of 1934, as amended, requires the adoption of one or all of the proposals made by Allegheny." In support of its

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request to shift the Pittsburgh educational reservation from VHF Channel 13 to UHF Channel 47 or 53, Allegheny Broadcasting Company stated that Pennsylvania, and Pittsburgh in particular, had not received a fair and equitable share of television channels; that the reservation resulted in an injustice to applicants for commercial stations; that Pittsburgh was being "penalized" in having one of the four educational reservations in the VHF band made in the entire northeast quadrant of the United States, including 14 states and the District of Columbia, whereas such cities as New York and Philadelphia escaped a VHF educational reservation; and that the educators and the people of Pittsburgh would be better served if the reservation were in the UHF band rather than in the VHF, in view of the fact that the educators would not utilize the VHF assignment as rapidly as commercial interests.

(i) **Counterproposal of Pittsburgh Radio Supply House, Inc.** Pittsburgh Radio Supply House, Inc., requested the additional assignment of Channel 4 and Channel 9 to Pittsburgh. The assignment of Channel 4 would require no other changes; and the assignment of Channel 9 would be accomplished by the substitution of a UHF channel for Channel 9 in Wheeling, West Virginia, as follows:

City	Third Notice		Proposed Changes	
	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.
Pittsburgh, Pa.	2, 11, *13	47, 53	2, 4+, 9+, 11, *13	47, 53
Wheeling, W. Va.	7, 9	*57	7, +	16+, *57

(j) **Statement in Support of Counterproposal of Pittsburgh Radio Supply House, Inc.** Pittsburgh Radio Supply House, Inc., stated that other cities ranking lower in population than the city of Pittsburgh have been assigned more channels for commercial television operation and that a fair, efficient and equitable allocation of television channels would require that additional channels be assigned to the Pittsburgh area.

(k) **Counterproposal of WCAE, Inc.,** WCAE requested the additional assignment of Channel 9 to Pittsburgh by substituting UHF Channel 63 in Wheeling, West Virginia, for Channel 9, and by making the following changes in the assignments proposed in the Third Notice:

City	Third Notice		Proposed Changes	
	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.
Pittsburgh, Pa.	2, 11, *13	47, 53	2, 9+, 11, *13	47, 53
Anderson, Ind.		61		49+
Muncie, Ind.		49, 55		55, 61+
Bellefontaine, O.		63		65+
Hamilton-Middletown, Ohio		65		64+
Washington, Pa.		63		16+
Wheeling, W. Va.	7, 9	*57	7, +	*57, 63+

(l) **Statement in Support of Counterproposal of WCAE, Inc.** WCAE, Inc., stated that the competitive situation in Pittsburgh would be improved by the assignment of additional commercial VHF channels to augment the two proposed; and that assignments of UHF channels would not alleviate this condition.

(m) **Opposition and Conflicting Counterproposals.** Opposition and conflicting counterproposals to the above Pittsburgh counterproposals to assign Channel 4 to Pittsburgh have been filed by WBEN, Inc., Buffalo, New York, and Crosley Broadcasting Corporation, Columbus, Ohio, and Matta Broadcasting Company, Braddock, Pennsylvania. Oppositions and conflicting counterproposals to the requested assignment of Channel 9 at Pittsburgh have been filed by Washington Broadcasting Company, Washington, Pennsylvania, WSTV, Inc., Steubenville, Ohio, WBVP, Inc., Beaver Falls, Pennsylvania, The Fort Industry Company, Tri-City Broadcasting Company and Community Broadcasting, Inc., all of Wheeling, West Virginia, and by Cleveland Broadcasting, Inc., United Broadcasting Company, The WGAR Broadcasting Company and WJW, Inc., all of Cleveland, Ohio.

(n) The assignment of Channel 4 to Pittsburgh would result in a co-channel assignment separation of 162.5 miles between Pittsburgh and the existing transmitter site of WLWC in Columbus, Ohio. The minimum co-channel assignment separation in this zone, Zone I, is 170 miles.

(o) **The Pittsburgh Educational Reservation.**[77] The Standing Committee of Educators for an Educational Television Channel and Duquesne University in Pittsburgh supported the reservation of Channel 13 in Pittsburgh for non-commercial educational use. The Standing Committee includes the following educational institutions and organizations: Carnegie Institute of Technology, University of Pittsburgh, Duquesne University, Pennsylvania College for Women, Mt. Mercy College, Pittsburgh Council P.T.A., Pittsburgh Board of Education, Pittsburgh Catholic Schools, Allegheny County Schools, Geneva College, Washington and Jefferson College, California State Teachers College, Seton Hill College, Mrs. James Elkus Community Representative and David L. Lawrence, Mayor, City of Pittsburgh. Also supporting the reservation of Channel 13 in Pittsburgh were State Teachers College, Edinboro, Pennsylvania, St. Vincent College, Latrobe, Pennsylvania, Waynesburg College, Waynesburg, Pennsylvania, and State Teachers College, Slippery Rock, Pennsylvania. The Standing Committee has held six meetings to discuss the financing and programming of an educational television station. A bill has been introduced in the State Legislature providing for the establishment of a state television network for non-commercial educational television to be financed by an appropriation of $2 million. The bill also would authorize the sum of $50,000, or so much as may be necessary for a survey by qualified personnel for guidance on the purchase of necessary sites and equipment for the construction of a master station and subsidiary stations. A sub-committee has been appointed by the Standing Committee to survey the possibility of financial assistance from sources other than the Commonwealth of Pennsylvania. The Standing Committee stated that there was strong indication that substantial financial support for an educational station could be obtained from foundations and charitable trusts in the area. Some of the heavily endowed private educational institutions have indicated, according to the Standing Committee, that if the education program on television were sufficiently comprehensive, it could be used advantageously in these institutions and could be supported from school grants. Duquesne University has made some exploratory investigation into necessary television equipment, including type and cost of apparatus, studio location, sources of program material and talent, and the training of personnel.[78]

[77] WWSW, Inc., Pittsburgh, Pennsylvania, claimed that the reservation of VHF Channel 13 for non-commercial educational television was, apparently as a matter of law, beyond the power and discretion delegated to the Commission by the Communications Act of 1934. We believe that our decision of July 13, 1951, with respect to this matter disposed of these contentions.

[78] The counterproposal of Allegheny Broadcasting Corporation requesting the reservation of a UHF channel in Pittsburgh in lieu of VHF Channel 13 has been set forth above, and the request of Tri-City Broadcasting Company for the deletion of Channel 13 from Pittsburgh is discussed below.

McKeesport

350. (a) **Census Data.** The City of McKeesport has a population of 52,000.

(b) **Counterproposal of Tri-City Broadcasting Company.** Tri-City Broadcasting Company requested that McKeesport be assigned VHF Channel 13 for "commercial-educational" use in lieu of the assignment of that channel to Pittsburgh for non-commercial educational television use.

(c) **Statement in Support of Tri-City Broadcasting Company Counterproposal.** Tri-City Broadcasting Company urged that although McKeesport is approximately 10 air miles southeast of downtown Pittsburgh and is listed by the Census Bureau as part of the Pittsburgh metropolitan area, it is not a "Pittsburgh suburb" but rather a major city of Pennsylvania; that Pittsburgh educators could not adequately finance an educational television station; and that to provide an opportunity for the presentation of non-commercial educational programs by colleges and universities in the area, Tri-City Broadcasting Company would make available to educational institutions 50% of the broadcast hours on its television station if VHF Channel 13 were assigned to McKeesport and a Tri-City application for this channel were granted.[79]

(d) McKeesport is within 15 miles of Pittsburgh and eligible to apply for the Pittsburgh channels.

(e) **Oppositions and Conflicting Counterproposals to the Tri-City Counterproposal.** Oppositions and conflicting counterproposals to the counterproposal of Tri-City Broadcasting Company have been filed by the following Pittsburgh parties: Pittsburgh Radio Supply House, Inc., Westinghouse Radio Stations, Inc., Allegheny Broadcasting Corporation, WWSW, Inc., WCAE, Inc., and the Standing Committee of Educators for an Educational Channel in Pittsburgh.

Braddock

351. (a) **Census Data.** The city of Braddock has a population of 16,000.

(b) **Counterproposal of Matta Broadcasting Company.** Matta Broadcasting Company requested the assignment of Channel 4 at Braddock. The assignment of Channel 4 would require no other changes.

(c) **Statement in Support of Matta Broadcasting Company Counterproposal.** Matta stated that a VHF television station located at Braddock would serve a substantially larger audience than would be served by a VHF television station located at numerous other places proposed to be assigned channels in the Third Notice.[80]

(d) The assignment of Channel 4 at Braddock would result in a co-channel assignment separation of 169.39 miles between Braddock and the existing transmitter site of WLWC in Columbus, Ohio. The minimum co-channel separation in this zone, Zone I, is 170 miles.

(e) **Oppositions and Conflicting**

[79] A counterproposal urging the principle that commercial station be required to allot prescribed time for non-commercial educational use in lieu of reservation of channels has been denied in another part of this Report. Allegheny Broadcasting Corporation filed Motions to Strike portions of the sworn statements of Edward J. Hirschberg, Wilkes E. Hurley and Ben Farkas filed on behalf of Tri-City Broadcasting Company. The Motion was directed against the statement of Edward J. Hirschberg on the grounds that statements of economic and statistical data did not indicate their source, are generally unsupported conclusions and personal opinions, are without proper foundation in fact, and are irrelevant and immaterial. The Motion was directed against the statement of Wilkes E. Hurley and Ben Farkas on the grounds the testimony related to engineering matters and that no showing was made that affiants were qualified as expert engineers in the field of television. Tri-City Broadcasting Company replied to the Motion to Strike. The Motions to Strike go to the weight of the evidence and not to the admissibility and are DENIED.

[80] Allegheny Broadcasting Corporation filed Motions to Strike portions of the document filed on behalf of Matta Broadcasting Company in support of its Comments. Matta Broadcasting Company filed a reply to these Motions. The Motion to Strike directed against the sworn statement of counsel is DENIED as it goes only to the weight of the evidence and not to its admissibility. The Motion to Strike directed against the affidavit of William G. Matta is GRANTED on the grounds that his statement that to the best of his knowledge and belief the statements of the counsel were true and correct when in face such statement was sworn to at a later date and may not have been in existence at the time it was said to be true and correct. The Motion to Strike directed against a statement of Mr. Matta on the grounds that it was not sworn to is GRANTED. The Motion to Strike directed against Section II of a document entitled "Economic Data for Braddock Area" is DENIED as it goes only to the weight of the evidence and not to its admissibility.

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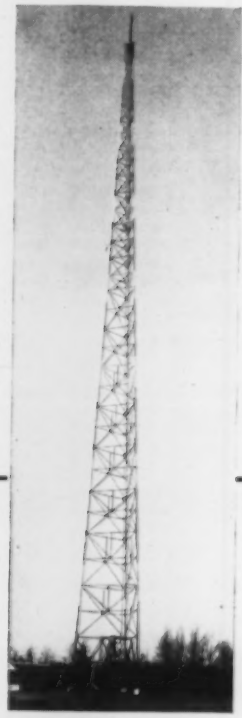

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Counterproposals. Oppositions and conflicting counterproposals to the counterproposal of Matta Broadcasting Corporation were filed by WBEN, Inc., Buffalo, New York, Crosley Broadcasting Corporation, Columbus, Ohio, and by Pittsburgh Radio Supply House, Inc., Westinghouse Radio Stations, Inc., Allegheny Broadcasting Corporation, and WWSW, Inc., of Pittsburgh, Pennsylvania.

Washington

352. (a) **Census Data.** The city of Washington has a population of 26,000.

(b) **Counterproposal of Washington Broadcasting Company.** Washington Broadcasting Company proposed alternative plans for assignment of Channel 7 or 9 to Washington by making the following changes in the assignments proposed by the Commission in the Third Notice:

City	Third Notice		Plan 1		Plan 2	
	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.
Washington, Pa.		63	7†	†	9†	†
Wheeling, W. Va.	7, 9	*57	†, 9	*57, 63†	7, †	*57, 63†

(c) **Statement in Support of Washington Broadcasting Company Counterproposal.** Washington Broadcasting Company urged that the assignment of a VHF channel to Washington in lieu of a UHF channel would make more effective use of the receivers presently in the hands of the persons residing in the Washington area.[81]

(d) **Oppositions and Conflicting Counterproposals to the Washington Broadcasting Company Counterproposal.** Oppositions and conflicting counterproposals to the counterproposal of Washington Broadcasting Company have been filed by Pittsburgh Radio Supply House, Inc., Westinghouse Radio Stations, Inc., Allegheny Broadcasting Corporation, WWSW, Inc., and WCAE, Inc., of Pittsburgh; Fort Industry Company, Tri-City Broadcasting Company, and Community Broadcasting, Inc., of Wheeling; and WSTV, Inc., of Steubenville.

Wheeling-Steubenville

353. (a) **Census Data.** The Wheeling-Steubenville standard metropolitan area has a population of 354,000. The city of Wheeling has a population of 59,000 and the city of Steubenville has a population of 36,000.

(b) **Counterproposal of WSTV, Inc.** WSTV, Inc., requested that the Commission delete either Channel 7 or Channel 9 from Wheeling for assignment to Steubenville and substitute Channel 51 in Wheeling.[82]

(c) **Statement in Support of WSTV, Inc., Counterproposal.** WSTV stated that Jefferson County, in which Steubenville is situated, has a population of 95,963 persons as compared with a population of 71,253 in Ohio County, in which Wheeling is located. It was noted that the state of Ohio has 183,393 persons in the Wheeling-Steubenville standard metropolitan area as compared with 169,531 for West Virginia within the metropolitan area. It was also contended that a VHF channel in Steubenville would more effectively cover the area since Steubenville is located in the eastern portion of Ohio where a station would provide the only VHF service to large sections of Ohio. It was pointed out that the assignment of a second VHF channel to Wheeling would merely result in duplication of service whereas the assignment of a VHF channel to Steubenville would afford a first VHF service. It was also asserted that the rough terrain in and near Steubenville necessitates a VHF facility for adequate television coverage in the area.[83]

(d) **Oppositions and Conflicting Counterproposals to the WSTV, Inc., Counterproposal.** Oppositions and conflicting counterproposals to to the counterproposal of WSTV, Inc., have been filed by The Fort Industry Company[84], Tri-City Broadcasting Company and Community Broadcasting, Inc., Wheeling; Allegheny Broadcasting Corp., Pittsburgh Radio Supply House, WCAE, Inc., and Westinghohuse Radio Stations, Inc., Pittsburgh; and Washington Broadcasting Company, Washington.

(e) **The Wheeling Educational Reservation.** A request to accept a late filing by the JCET in support of the reservation of UHF Channel 57 for non-commercial educational use in Wheeling, West Virginia, was denied by the Commission on October 17, 1951. No objection has been filed to the proposed reservation of Channel 57 for noncommercial educational use in Wheeling.

(f) The assignment of Channel 57 to Wheeling would be in accordance with our Rules and Standards adopted herein. However, the assignment of Channel 57 in Steubenville would result in a violation of the separation requirements to protect against sound image separation since Steubenville and Butler, Pennsylvania are only 52 miles apart.

Conclusions: The Pittsburgh Educational Reservation

354. The educational organizations in Pittsburgh have demonstrated their interest in establishing a non-commercial educational television station in the Pittsburgh area. They have supported this interest with concrete plans to establish such a station by banding together in an association, the Standing Committee of Educators for an Educational Television Channel in the Pittsburgh area. Further, a bill has been introduced in the State Legislature providing for the establishment of a state television network to be financed by an appropriation of two million dollars. It is our view, in light of the record, that the reasons for the reservation of a VHF channel for educational purposes are particularly applicable in the Pittsburgh area.

355. We reject the contention of Allegheny Broadcasting Company that the effect of the proposed reservation on applicants for commercial stations in Pittsburgh requires the deletion of that reservation from the VHF.[85] We also reject the argument that the educators and the people of Pittsburgh would be better served if the reservation were in the UHF band rather than in the VHF; we find no adequate basis on the record for such a conclusion. Moreover, with respect to the counterproposal of Tri-City Broadcasting Company, McKeesport is situated less than 15 miles from Pittsburgh, and will receive Grade A service from Pittsburgh. Further, applicants from McKeesport are eligible to apply for the channels assigned to Pittsburgh in accordance with the rules adopted herein. For this reason we find no basis in the record to delete an assignment from Pittsburgh in order to create one for McKeesport.[86]

356. In view of the foregoing, we believe that the record requires that the proposed reservation of Channel 13 in Pittsburgh for noncommercial educational use be finalized.

Conclusions: Pittsburgh and Braddock (Channel 4)

357. Four parties, Pittsburgh Radio Supply House, Inc., Allegheny Broadcasting Company, Westinghouse Radio Stations, Inc., and WWSW, Inc. requested the additional assignment of VHF Channel 4 to Pittsburgh; and Matta Broadcasting Company requested the assigment of Channel 4 to Braddock. It is our view that these counterproposals must, on the basis of the record, be denied. The assignment of Channel 4 to Pittsburgh or to Braddock would involve co-channel assignment separations of 162.5 miles or 169.39 miles, respectively, to Station WLWC in Columbus, Ohio. The minimum separation in Zone I, which is applicable here, is 170 miles. Since a grant of either counterproposal would result in a separation less than the required minimum, these counterproposals can not be granted. Accordingly, the counterproposals of Pittsburgh Radio Supply House, Inc., Allegheny Broadcasting Company, Westinghouse Radio Stations, Inc., WWSW, Inc., and Matta Broadcasting Company are denied in so far as they request the assignment of Channel 4 to Pittsburgh and Braddock, respectively.

Conclusions: Pittsburgh, Washington, Wheeling-Steubenville (Channels 7 and 9)

358. Four parties, Pittsburgh Radio Supply House, Inc., Allegheny Broadcasting Company, Westinghouse Radio Stations, Inc., and WCAE, Inc., requested the additional assignment of Channel 9 to Pittsburgh and the deletion of this channel from Wheeling. Washington Broadcasting Company requested the additional assignment of either Channel 7 or Channel 9 to Washington by deleting a channel from Wheeling. WSTV, Inc. requested the additional assignment of either Channel 7 or Channel 9 to Steubenville by deleting a

[81] Allegheny Broadcasting Corporation on October 1, 1951 filed with the Commission Motions to Strike certain portions of the sworn statement of William S. Yard, President of Washington Broadcasting Company, filed on behalf of Washington Broadcasting Company, in which he incorporated by reference the Comments of the Company on the grounds that the statements are conclusions of the witness without factual basis and that the witness had not been qualified as an engineer to give expert testimony with respect to grades of service rendered by a station, gains of population, and to make comparison between a UHF station and a VHF station. Washington Broadcasting Company answered and opposed the Motions to Strike. The Motions to Strike are DENIED since they go to the weight to be given to the evidence and not to its admissibility as evidence in this proceeding.

[82] On December 6, 1951, WSTV, Inc., filed a request for acceptance of amendment it is proposed as an alternative that the assignment of television channels to Wheeling and Steubenville be combined so as to assign Channels 7, 9, 51 and 57 to the Wheeling-Steubenville standard meropolitan area. Fort Industry opposed the acceptance of this amendment on the grounds that it was filed too late and that good cause for its acceptance was not shown. WSTV argued that the evidence adduced in the hearing would support the alternative counterproposal and cited the position taken by Fort Industry with respect to Pittsburgh's request for deletion of a Wheeling channel as establishing that Fort Industry recognized the homogeneity of the area. It is our view that acceptance of this amendment is not necessary since we believe the possibility of assigning all the channels in Wheeling and Steubenville to these cities jointly is of necessity in issue in this proceeding, especially in view of the evidence adduced.

[83] Allegheny Broadcasting Corporation filed Motions to Strike certain portions of the sworn statements of John J. Laux, Executive Vice President of WSTV, Inc., and Julius Cohen, engineering affiant of WSTV, Inc., filed with the Commission on behalf of WSTV, Inc. The reasons advanced for the Motion to Strike the statement of Mr. Laux are that he attempted to give legal and engineering testimony when he had not been qualified as an expert and the statement of Mr. Cohen for the reason that in the last paragraph of his statement he attempted to set forth conclusions of law. The Motions to Strike are DENIED since they go to the weight to be given to the evidence and not to its admissibility as evidence in this proceeding.

[84] Allegheny Broadcasting Corporation filed Motions to Strike certain portions of the sworn statement of William E. Rine, Vice President of the Fort Industry Company, filed in support of the Commission's proposed assignment for Wheeling. The Motion to Strike was directed against Mr. Rine's sworn statement on the grounds that the affiant offered engineering and legal conclusions when he had not been qualified. Motions to Strike were also directed against statements of seven individuals prominent in business and civic life in Wheeling, which were filed in support of the Fort Industry Company comment of September 10, 1951. The Motions to Strike were directed against these seven sworn statements on the grounds that they are hearsay, that they are statements of personal belief, and that the affiants have not been qualified as expert engineers and as attorneys. Fort Industry Company filed an answer to the Motions to Strike. The Motions to Strike are DENIED since they go only to the weight to be given to the evidence and not to its admissibility as evidence in this proceeding. Allegheny Broadcasting Corp. filed a Motion to Strike the statement of Irvin Stewart, President of West Virginia University, on the grounds that the statement has not been sworn to. The Motion to Strike is GRANTED. In Paragraph 5(d) of the Order of Hearing Procedure of July 25, 1951, the Commission provided that statements not sworn to will not receive any consideration.

[85] See our decision with respect to the educational reservation in Boston.

[86] See also our decision with respect to Boston and Brockton.

channel from Wheeling.

359. We believe, in view of the common identity and economic interest of Wheeling and Steubenville, that these cities should be considered as a single entity for assignment purposes. The 1950 Census of Population Report includes Wheeling and Steubenville in one standard metropolitan area defined as Wheeling-Steubenville, with a population of 354,092 persons. The parties in this proceeding have explicitly recognized that the needs of the entire area for television service should be considered rather than the needs of the cities within it separately. For example, Fort Industry in its statement of September 10, 1951 in opposition to the request for deletion of a VHF channel from Wheeling to be assigned to Pittsburgh stated:

> The allocation of two VHF channels to the Wheeling-Steubenville metropolitan area is necessary to provide a choice of local expression and to promote a healthy competitive situation.

In its brief, WCAE, Inc., posed the conflicting requests of Pittsburgh, Wheeling-Steubenville as follows:

> Moreover, in the last analysis the comparative needs of the Pittsburgh metropolitan area must be weighed against the corresponding needs of the Wheeling-Steubenville metropolitan area taken together and not as two separate areas.

360. Accordingly, the assignments made to Wheeling and to Steubenville will be revised to provide assignments to Wheeling-Steubenville rather than to the respective cities.

361. In view of our decision, the requests of the Pittsburgh parties for the assignment of Channel 9, and of the Washington party for the assignment of either Channel 7 or Channel 9, must be considered as requests to delete that channel from Wheeling-Steubenville. We do not believe that the record justifies the deletion of a channel from Wheeling-Steubenville in order to assign that channel to Pittsburgh. As indicated above, the Commission in the Third Notice proposed the assignment of three VHF and two UHF channels to Pittsburgh. A grant of the Pittsburgh requests for the assignment of Channel 9 would add a fourth VHF channel to the Pittsburgh area. We do not believe the record justifies the deletion of the second VHF channel assigned to Wheeling-Steubenville for this purpose. We reach the same conclusion with respect to the request for the deletion of a VHF channel from Wheeling and the assignment thereof to Washington. Washington is located 23 miles from Pittsburgh and in a suburban part of the Pittsburgh standard metropolitan area. Moreover, Washington would receive VHF Grade A service from the stations assigned to Pittsburgh in addition to VHF Grade A service from the operation of a station in Wheeling.

362. Accordingly, the counterparts of Pittsburgh Radio Supply House, Inc., Allegheny Broadcasting Company, Westinghouse Radio Stations, Inc., and WCAE, Inc., are denied in so far as they request the assignment of Channel 9 to Pittsburgh; the counterproposal of Washington Broadcasting Company is denied and the counterproposal of WSTV, Inc., is denied in so far as they request the assignment of either Channel 7 or 9 to Steubenville only.

Conclusions: Additional Channel for Pittsburgh

363. We believe that the assignment of an additional channel in Pittsburgh warranted on the basis of the record. It was above pointed out that, in establishing the Table of Assignments, we have given consideration to the factor of population; thus, cities with a population from 250,000 to 1,000,000 have been provided from 4 to 6 assignments. We believe, further, that a city with a population of 400,000 or more, the top 25 cities in the country, should have a total of at least 6 channels, including both VHF and UHF, where such assignments are technically feasible. It was above noted, however, that the counterproposals requesting adlitional VHF channels for Pittsburgh could not be granted. UHF Channel 16 in Pittsburgh would meet the required mileage spacings for channel assignments in Zone I. Accordingly, Channel 16 will be assigned to Pittsburgh.

Conclusions: The Wheeling Educational Reservation

364. As indicated above, the assignment of Channel 57 to Wheeling is in accordance with our standards, but the assignment of this channel to Steubenville would result in a sound image separation below the required minimum 60 miles. In view of the fact that no objections to the reservation were filed, the reservation of Channel 57 in Wheeling for non-commercial educational use is finalized.

Conclusions: Show Cause Order

365. Allen B. DuMont Laboratories, Inc., has not objected to the proposed modification of the license of Station WDTV to specify operation on Channel 2 rather than Channel 3. Accordingly, an appropriate authorization to Allen B. DuMont Laboratories, Inc., will be issued to specify operation of Station WDTV on Channel 2.

Final Assignments and Reservations

366. The following assignments and reservations are adopted:

City	VHF Channel No.	UHF Channel No.
Pittsburgh, Pa.	2, 11, *13	16, 47, 53
Washington, Pa.		63
Wheeling, W. Va.		*57
Wheeling, W. Va.-Steubenville, O.	7, 9	51

ALTOONA, PENNSYLVANIA, HARRISONBURG, VIRGINIA

367. **Proposed Assignments.** In the Third Notice the Commission proposed the following assignments:

City	VHF Channel No.	UHF Channel No.
Altoona, Pa.		19, 25
Harrisonburg, Va.		34

Altoona

368. (a) **Census Data.** The standard metropolitan area of Altoona has a population of 140,000 and the city of Altoona has a population of 77,000.

(b) **Counterproposal of Gable Broadcasting Company.** Gable Broadcasting Company requested the assignment of VHF Channel 3 to Altoona. No other changes would be required in the assignments proposed by the Commission in the Third Notice.

(c) **Statement in Support of Gable Broadcasting Company Counterproposal.** Gable Broadcasting Company stated that a VHF channel located in Altoona would serve substantial portions of the population of surrounding counties which would receive some VHF service only from one proposed assignment in Johnstown, Pennsylvania, and noted that there are presently 10,000 receivers in Altoona and surrounding areas.

(d) **Oppositions and Conflicting Counterproposals to Counterproposal of Gable Broadcasting Company.** Cornell University filed a mutually exclusive counterproposal for the addition of Channel 3 to Ithaca. The addition of Channel 3 to Ithaca has been denied for the reasons set forth in the discussion of that counterproposal. Shenandoah Valley Broadcasting Corporation, Harrisonburg, Virginia, filed a mutually exclusive counterproposal for the addition of Channel 3 to Harrisonburg.

(e) In the Third Notice it was proposed to assign Channel 10 to Philadelphia, Pennsylvania, Rochester, New York, and Columbus, Ohio. The distances from Altoona to Philadelphia, Rochester and Columbus are 176, 187, and 246 miles, respectively. The Third Notice proposed the assignment of adjacent Channel 9 to Wheeling, West Virginia, at a distance of 126 miles from Altoona, and Channel 11 to Pittsburgh, Pennsylvania, at a distance of 84 miles from Altoona.

Harrisonburg

369. (a) **Census Data.** The city of Harrisonburg has a population of 11,000.

(b) **Counterproposal of Shenandoah Valley Broadcasting Corp.** Shenandoah Valley Broadcasting Corp., requested the addition of a VHF channel to Harrisonburg. This request is made contingent by Shenandoah Valley Broadcasting Corp. on the grant of other counterproposals and would add either Channel 3, or Channel 12, to Harrisonburg. The requested addition of Channel 12 to Harrisonburg is made contingent upon our adoption of the counterproposal of Southeastern Ohio Broadcasting Company, Inc., Zanesville, Ohio, to assign Channel 12 to Zanesville. We have in another part of this Report denied the counterproposal of Southeastern Ohio Broadcasting Company, Inc., to assign Channel 12 to Zanesville, and accordingly, the request for assignment of Channel 12 at Harrisonburg will not be discussed further.

(c) The requested addition of Channel 3 to Harrisonburg is made contingent upon our adoption of the counterproposal of WTAR Radio Corporation, Norfolk, Virginia, to assign Channel 3 at Norfolk and the counterproposal of WSAZ, Inc., Huntington, West Virginia, to assign Channel 3 at Huntington.[57] The assignment of Channel 3 would be accomplished by making the following changes in the assignments proposed by the Commission in the Third Notice:

City	Third Notice		Proposed Changes	
	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.
Harrisonburg, Va.	†	34	3†	34
Norfolk-Portsmouth, Va.	10, 12	15, *21, 27	3†, 10	15, *21, 27
Richmond, Va.	3, 6	*23, 29	6, 12†	*23, 29
Huntington, W. Va.	8, 13	*53	3†, 13	*53
Charleston, W. Va.	3	*43, 49	8†	*43, 49

(d) **Statement in Support of Shenandoah Valley Broadcasting Corp. Counterproposal.** Shenandoah Valley Broadcasting Corp., stated that its proposal would improve the over-all assignment plan of television stations in the United States on the basis of the priorities set forth in the Third Notice.

(e) Channel 3 at Harrisonburg as proposed by Shenandoah Valley would be 179 miles from the closest co-channel station at Norfolk, Virginia,[58] and 105 miles from the closest adjacent channel (4) at Washington, D. C. These distances meet the minimum separations adopted in the Report for this Zone.

(f) **Oppositions and Conflicting Counterproposals to Shenandoah Valley Broadcasting Corp.** The counterproposal of Shenandoah Valley Broadcasting Corp., is mutually exclusive with the counterproposal of Gable Broadcasting Company and Hampton Roads Broadcasting Corp., Newport News, Virginia.[59] Richmond Newspapers, Inc., Richmond, Virginia, opposed the counterproposal of Shenandoah Valley for the assignment of Channel 3 to Harrisonburg, if it could be achieved only by the deletion of a VHF channel from Richmond. In light of our action granting the counterproposal of WTAR, Inc., which substitutes Channel 12 in Richmond for Channel 3, Channel 3 can be assigned to Harrisonburg without deleting a Richmond channel and therefore meets the Richmond Newspapers, Inc., objection. Larus & Brother, Inc., Richmond, Virginia, opposed the counterproposal of Shenandoah Broadcasting Corporation seeking the assignment of Channel 3 in Harrisonburg since this would preclude the utilization of Channel 3 in Richmond. For this reason Larus & Brother also opposed the counterproposal of WTAR, Inc., to assign Channel 3 to Norfolk in place of Richmond. Our action elsewhere in this Report granting the WTAR, Inc., counterproposal is determinative of the opposition of Larus & Brother with respect

[57] We have elsewhere in this Report granted the counterproposals of WTAR Radio Corporation to assign Channel 3 at Norfolk and of WSAZ, Inc., to assign Channel 3 at Huntington. The WSAZ, Inc., counterproposal also substitutes Channel 8 for Channel 3 in Charleston, W. Va.

[58] We have in another part of this Report determined that the license of Station WTAR-TV, Norfolk, Virginia, will be modified to specify Channel 3.

[59] Elsewhere in this Report we have denied the counterproposal of Hampton Broadcasting Corp. for the reasons there stated.

to the utilization of Channel 3 in Richmond.

Conclusion

370. The foregoing counterproposals of Gable Broadcasting Company and Shenandoah Broadcasting Company seeking the assignment of Channel 3 to Altoona and Harrisonburg, respectively, are mutually exclusive. As indicated above, however, the assignment of Channel 10 to Altoona would be in accordance with our standards adopted herein. It is our view that the record supports the basis for the additional assignment of a VHF channel to both Altoona and Harrisonburg. The conflict between these communities can be resolved by the assignment of Channel 10 to Altoona and Channel 3 to Harrisonburg. Accordingly, the counterproposal of Gable Broadcasting Company is denied in so far as it requests Channel 3 in Altoona, and Channel 10 is assigned to Altoona; and the counterproposal of Shenandoah Broadcasting Corp. is granted in so far as it requests the assignment of Channel 3 in Harrisonburg.

Final Assignments

371. The following assignments for Altoona and Harrisonburg are adopted: [90]

City	VHF Channel No.	UHF Channel No.
Altoona, Pa.	10	19, 25
Harrisonburg, Va.	3	34

STATE COLLEGE, PENNSYLVANIA EDUCATIONAL RESERVATION

372. (a) **Proposed Reservation.** In the Third Notice the Commission proposed the reservation of Channel 44 for non-commercial educational use at State College.

373. (b) The JCET supported the reservation of Channel 44 in State College, the site of Pennsylvania State College. No objections to the proposed reservation were filed.

Conclusions

On the basis of the record, the reservation of Channel 44 for noncommercial educational use in State College is finalized.

JOHNSTOWN, PENNSYLVANIA

374. (a) **Proposed Assignments.** In the Third Notice the Commission proposed the assignment of VHF Channel 6 and UHF Channel 56 to Johnstown.

(b) **Existing Stations.** WJAC, Inc., is licensed for the operation of WJAC-TV, Johnstown, on Channel 13. The Commission ordered the licensee to show cause why the license of WJAC-TV should not be modified to specify operation on Channel 6 in lieu of Channel 13.

(c) **Answer of WJAC, Inc. to Show Cause Order.** WJAC, Inc. stated that it did not object to the proposed modification of the WJAC-TV license.

Conclusion

375. In view of the foregoing, an appropriate authorization to WJAC, Inc., will be issued to specify operation of WJAC-TV on Channel 6.

ERIE, PENNSYLVANIA

376. (a) **Proposed Assignments and Reservation.** In the Third Notice, the Commission proposed the assignment of VHF Channel 12 and UHF Channels 35 and 41 to Erie, with Channel 41 reserved for non-commercial educational use.

(b) **Census Data.** The metropolitan area of Erie has a population of 219,000 and the City of Erie has a population of 131,000.

(c) **Existing Stations.** Dispatch, Inc., is licensed for the operation of Station WICU on Channel 12 in Erie.

(d) **Counterproposal of Erie Television Corporation.** Erie Television Corporation requested the additional assignment of Channel 64 to Erie by making the following changes in the assignments proposed in the Third Notice:

City	Third Notice		Proposed Changes	
	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.
Erie	12	35, *41	12	35, *41, 64†
Oil City		64		62†

(e) **Statement in Support of Erie Television Corporation Counterproposal.** Erie Television Corporation stated that a grant of its counterproposal would be in accordance with the Commission's rules, with the exception that Channel 47 proposed for Pittsburgh, Pennsylvania, is at a distance of 71 miles from Oil City. The required mileage separation to protect against image interference between Channel 47 and Channel 62 is 75 miles. The Erie Television Corp. asserted however, that the terrain between Pittsburgh and Oil City is extremely rugged and that it is not expected that image interference would result from utilizing Channel 47 at Pittsburgh and Channel 62 at Oil City; that it would be possible to locate transmitters in Pittsburgh and Oil City so that the required 75 miles spacing could be met; and that because of expected improvements in receiver design, the operation of stations on Channel 47 in Pittsburgh and on Channel 62 in Oil City woul not result in objectionable image interference.

(f) **Oppositions and Conflicting Counterproposals to the Erie Television Corporation Counterproposal.** A conflicting counterproposal was filed jointly by Buffalo Courier Express, Inc., WGR Broadcasting Corporation and WBKW, Inc., all of Buffalo, New York, requesting, in part, that either Channel 59 or Channel 62 be assigned to Niagara Falls, New York. This counterproposal of the Buffalo parties has been discussed above and denied for the reasons there stated.

(g) **Counterproposal of Presque Isle Broadcasting Company.** Presque Isle Broadcasting Company filed a counterproposal requesting the assignment of all commercial television at Erie to the UHF band and the shift of the educational reservation from UHF Channel 41 to VHF Channel 12 so that the two UHF channels would be available for commercial use. Alternatively, it was requested by Presque Isle that UHF Channel 58 be assigned to Erie and deleted from Jamestown, New York; or that a flexibility channel be added to Erie. The alternative counterproposals of Presque Isle are as follows:

City	Third Notice		Proposed Changes	
	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.
Plan 1				
Erie, Pa.	12	35, *41	*12†	35, 41†
Plan 2				
Erie, Pa.	12	35, *41	12	34, *41, 58†
Jamestown, N. Y.		58		†
Plan 3				
Erie, Pa.	12	35, *41	12	35, *41, plus Flex. Channel

(h) **Statement in Support of Presque Isle Broadcasting Company Counterproposal.** Presque Isle asserted that intermixture of commercial VHF and UHF television channels in Erie, should be eliminated in order to equalize competition between UHF and VHF commercial stations. It was asserted that the inequality of competition, resulting from intermixture would discourage applications for the only UHF commercial television channel and, consequently, would delay a competitive service to Erie. Presque Isle contended that there need be no injury to the existing licensee operation on Channel 12, or to the owners of VHF television receivers in the Erie area, since a reasonable period of time could be provided the existing VHF station to convert to UHF. In support of its alternative request that an additional UHF channel be assigned to Erie, Presque Isle asserted that while this alternative proposal would not meet the objections to intermixture, an additional UHF commercial channel in Erie would provide an incentive to the public purchase VHF-UHF receivers or UHF converters more promptly and in greater number than if only 1 UHF station were competing with the VHF station.

(i) **Opposition to the Presque Isle Broadcasting Company Counterproposal.** Dispatch, Inc. opposed the counterproposal of Presque Isle to move existing Station WICU to the UHF band and to move the educational reservation to VHF Channel 12. Dispatch, Inc. asserted that converting the existing VHF television station to the UHF would be expensive, both to the licensee and the public. Moreover, it was asserted that if the existing station were required to change to the UHF, 11,735 persons would lose their only commercial television service.

(j) **The Erie Educational Reservation.** The JCET supported the reservation of Channel 41 in Erie for non-commercial educational use. No objection was filed to the reservation of this channel.

Conclusion: Channel 64

377. With respect to the Erie Television Corporation counterproposal, we have discussed above the necessity for maintaining 75 mile separation between channels in the UHF band spaced 15 channels apart. It is our view that the request must be denied for the reasons set out in our discussion of minimum separation in the UHF.

Conclusion: Channels 12 and *41

378. It is our view that Presque Isle's counterproposal requesting that all commercial television in Erie be assigned to the UHF band and the educational reservation shifted from UHF Channel 41 to VHF Channel 12 should be denied. We do not believe that the arguments advanced by Presque Isle outweigh such other important factors as wide VHF coverage which have led to the adoption of our general policy concerning the reservation of VHF channels for non-commercial educational stations. We have proposed the assignment of only one VHF channel to Erie; and in light of the fact that the educational interests in that community have not requested the reservation of that VHF channel for non-commercial educational use and have made no showing with respect to the utilization of a VHF channel, we do not believe the record supports the shifting of the educational reservation to the only VHF channel in Erie. Furthermore, since station WICU is presently operating on this VHF channel, a grant of the Presque Isle request would necessitate a disruption of television service in Erie.

Conclusions: Channel 58 and Flexibility Channel

379. It is our view that the alternative request of Presque Isle Broadcasting Company that UHF Channel 58 be deleted from Jamestown, New York, and assigned to Erie must also be denied. No basis has been established in the record for the deletion of the only channel assigned to Jamestown in order to provide a fourth channel for Erie. However, the Commission believes that, on the basis of the record, the addition of a UHF assignment to Erie is warranted. Accordingly, the counterproposal of Presque Isle Broadcasting Company, insofar as it requests the assignment to Erie of a channel from the 782-890 Mc. band, is warranted and we are assigning Channel 66 to Erie.

Conclusion: The Educational Reservation

380. It is our view on the basis of the record that the proposed reservation of UHF Channel 41 for non-commercial educational use in Erie should be finalized.

Final Assignment and Reservation

381. The following assignments and reservation are adopted:

City	VHF Channel No.	UHF Channel No.
Erie	12	35, *41, 66

LOCK HAVEN, PENNSYLVANIA

382. (a) **Proposed Assignments.** In the Third Notice the Commission did not propose the assignment of any channels to Lock Haven.

(b) **Census Data.** The City of Lock Haven has a population of 11,000.

(c) **Counterproposal of Lock Haven Broadcasting Corporation.** Lock Haven Broadcasting Corporation requested the assignment of UHF Channel 32 to Lock Haven.

(d) **Statement in Support of Counterproposal of Lock Haven Broadcasting Corporation.** In support of its counterproposal, Lock Haven Broadcasting Corporation

[90] No request was made on the record for an educational reservation in Altoona.

urged that the assignment of Channel 32 to Lock Haven, Pennsylvania, would afford the first television station to Lock Haven and a first television service to a small area in the vicinity of Lock Haven and Wililamsport, Pennsylvania. It was also urged that the grant of the counterproposal would afford the second television service in other areas.

Conclusion

383. It is our view that the assignment of a UHF channel to Lock Haven is warranted. Accordingly, the counterproposal of Lock Haven Broadcasting Corporation is granted and the assignment of UHF Channel 32 for Lock Haven is adopted.

BEAVER FALLS, PENNSYLVANIA

384. (a) **Proposed Assignments.** In the Third Notice the Commission did not propose the assignment of any channels to Beaver Falls.

(b) **Census Data.** The City of Beaver Falls has a population of 17,000.

(c) **Counterproposal of WBVP, Inc.** WBVP, Inc. requests the assignment of UHF Channel 16 to Beaver Falls. No other changes in the assignments proposed in the Third Notice were requested.

(d) **Statement in Support of WBVP, Inc. Counterproposal.** In support of the WBVP, Inc. counterproposal it was stated that the nearest cities to Beaver Falls for which the Commission proposed channel assignments are Pittsburgh, at a ditsance of 31 miles, Youngstown, Ohio, at a distance of 28 miles, Butler, Pennsylvania, at a distance of 21 miles, and New Castle, Pennsylvania, at a distance of 16 miles. The WBVP counterproposal would result in a co-channel separation of 165 miles between Beaver Falls, Pennsylvania, and Brantford, Ontario.

(e) **Conflicting Counterproposals and Oppositions to the WBVP, Inc. Counterproposal.** The WBVP, Inc. counterproposal is opposed by, and is mutually exclusive with counterproposals filed by the following parties: Joint proposal filed by the Cleveland Broadcasting Company, United Broadcasting Company, WGAR Broadcasting Company, and WJW, Inc., all of Cleveland, Ohio; WCAF, Inc., Pittsburgh, Pennsylvania; and Pittsburgh Radio Supply House, Pittsburgh, Pennsylvania.

Conclusions

385. The WBVP, Inc. counterproposal for the assignment of Channel 16 to Beaver Falls, Pennsylvania, would result in a co-channel separation of 165 miles between Beaver Falls and Brantford, Ontario. The counterproposal is denied for the reasons set forth in our discussion of Canadian-United States assignments.

TOLEDO, OHIO EDUCATIONAL RESERVATION

386. (a) **Proposed Reservation.** In the Third Notice the Commission proposed the reservation of UHF Channel 30 for Toledo.

(b) The Board of Education of the City School District of Toledo and the University of Toledo supported the reservation of Channel 30 in Toledo for non-commercial educational use. No objections were filed to the proposed reservation.

Conclusions

387. In view of the foregoing, the reservation of Channel 30 in Toledo for non-commercial educational use is finalized.

OXFORD, OHIO EDUCATIONAL RESERVATION

388. (a) **Proposed Reservation.** In the Third Notice the Commission proposed the reservation of UHF Channel 14 for Oxford.

(b) The Miami University supported the reservation of Channel 14 in Oxford for non-commercial educational use. No objection was filed to the proposed reservation.

Conclusions

389. In view of the foregoing, the reservation of Channel 14 in Oxford for non-commercial educational use is finalized.

AKRON, AND WOOSTER, OHIO

390. (a) **Proposed Assignments and Reservation.** In the Third Notice the Commission proposed the following assignments and reservation:

City	VHF Channel No.	UHF Channel No.
Akron, Ohio		49, *55, 61

No assignments were proposed for Wooster.

(b) **Census Data.** The population of Akron is 275,000. The population of Wooster is 14,000.

Akron

391. **The Akron Educational Reservation.** The Board of Education of Akron School District and the Kent State University supported the reservation of Channel 55 in Akron for non-commercial educational use. The Board of Education stated that it was cooperating with Kent State University and the University of Akron in a preliminary study of the problems involved in setting up an educational television station in Akron; that such a study would take considerable time and consequently the reservation was necessary to permit its completion; that a joint committee representing the three institutions held meetings to discuss the problems of construction and operation of an educational television station; that research is being conducted into the possibility of an educational network for the State of Ohio and that various programs produced by the Radio Department of the Akron public schools could be used for educational television.

Wooster

392. (a) **Counterproposal of Wooster Republican Printing Company.** Wooster Republican Printing Company requested the deletion of Channel 55 from Akron and its assignment to Wooster. No other changes were requested in the assignments proposed in the Third Notice.

(b) **Statement in Support of Wooster Republican Printing Company Counterproposal.** Wooster Republican Printing Company stated that its proposed assignment of a channel to Wooster would better meet the assignment principles of the Third Notice than would the proposed assignment.

(c) **Opposition to the Wooster Counterproposal.** The Board of Education of Akron School District, and the Summit Radio Corporation, Akron, Ohio, opposed the Wooster Republican Printing Company counterproposal.

Conclusions

393. It is our view that the record supports the proposed assignment and reservation for non-commercial educational use of Channel 55 in Akron. The City of Akron has a population of 275,000 as compared to the City of Wooster with a population of 14,000. In view of the relative sizes of these communities and in the absence of a showing that no other channel is available for assignment to Wooster, we do not believe that the deletion of Channel 55 from Akron to assign that channel to Wooster is warranted. Accordingly, the counterproposal of Wooster Republican Printing Company is denied and the proposed reservation of Channel 55 in Akron for non-commercial educational use is finalized.

Final Assignments and Reservation

394. The following assignments and reservation are adopted:

City	VHF Channel No.	UHF Channel No.
Akron, Ohio		49, *55, 61

DAYTON, OHIO

395. (a) **Proposed Assignments and Reservation.** In the Third Notice the Commission proposed the assignment of VHF Channels 2 and 7 and UHF Channels 16 and 22 for Dayton, with Channel 16 reserved for non-commercial educational use.

(b) **Existing Stations.** Crosley Broadcasting Corporation is licensed for the operation of Station WLWD on Channel 5. The Commission ordered the licensee to show cause why its license should not be modified to specify operation on Channel 2 in lieu of Channel 5. Miami Valley Broadcasting Corporation is licensed for the operation of Station WHIO-TV on Channel 13. The Commission ordered the licensee to show cause why its license should not be modified to specify operation on Channel 7 in lieu of Channel 13.

(c) **Answers to Orders to Show Cause.** The Crosley Broadcasting Corporation did not object to the proposed modification of the WLWD license. Miami Valley Broadcasting Corporation stated that operation of Station WHIO-TV on Channel 7 in lieu of Channel 13 would constitute an improvement in channel assignments and that it had no objection to the proposed change.

(d) **The Dayton Educational Reservation.** The JCET supported the reservation of Channel 16 in Dayton for non-commercial educational use. No objection was filed to the reservation of this channel.

Conclusions: Orders to Show Cause

396. In view of the foregoing, an appropriate authorization will be issued to Crosley Broadcasting Corporation to specify operation of WLWD on Channel 2; and an appropriate authorization to Miami Valley Broadcasting Corporation will be issued to specify operation of Station WHIO-TV on Channel 7.

Conclusions: Dayton Educational Reservation

397. On the basis of the record the reservation of Channel 16 in Dayton for non-commercial educational use is finalized.

Final Assignments and Reservation

398. The following assignments and reservation are adopted:

City	VHF Channel No.	UHF Channel No.
Dayton, Ohio	2, 7	*16, 22

WARREN, OHIO

399. (a) **Proposed Assignment.** In the Third Notice the Commission proposed the assignment of UHF Channel 21 to Warren.

(b) The Warren Tribune Radio Station, Inc., supported the proposed assignment of Channel 21 to Warren. No objection was filed to the assignment of this channel.

Conclusions

400. In view of the foregoing the proposed assignment of Channel 21 for Warren is adopted.

YOUNGSTOWN, OHIO

401. (a) **Proposed Assignments.** In the Third Notice the Commission proposed the assignment of UHF Channel 27 and 33 to Youngstown.

(b) **Census Data.** The standard metropolitan area of Youngstown has a population of 528,000 and the City of Youngstown has a population of 168,000.

(c) **Counterproposal of Vindicator Printing Company.** Vindicator Printing Company requested the additional assignment to Youngstown of one or more channels in the 782-890 Mc. band.

(d) **Statement in Support of Vindicator Printing Company Counterproposal.** Vindicator Printing Company stated that Youngstown is the only one of the first 30 metropolitan areas of the United States which has not been assigned at least 2 VHF channels for commercial use, and is also one of three of the first 30 metropolitan areas which has not been assigned at least five channels; that Youngstown is the only principal city of the first 30 metropolitan areas which does not have at least three television channels assigned to it for commercial use; and that the City of Youngstown supports three AM and two FM broadcast stations. No opposition was filed to the counterproposal.

(e) Channel 73 can be assigned to Youngstown in accordance with the standards adopted herein.

Conclusions

402. It is our view based on the record that the assignment of an additional channel to Youngstown is warranted. Accordingly, the counterproposal of Vindicator Printing Company is granted, and Channel 73 is assigned to Youngstown.

Final Assignments [91]

403. The following assignments are adopted:

City	VHF Channel No.	UHF Channel No.
Youngstown, Ohio		27, 33, 73

CINCINNATI, OHIO

404. (a) **Proposed Assignments and Reservation.** In the Third Notice the Commission proposed the assignment to Cincinnati of VHF Channels 5, 9 and 12 and UHF Channels 48 and 54, with Channel 48 reserved for non-commercial educational use.

(b) **Census Data.** The standard metropolitan area of Cincinnati has a population of 904,000 and the City of Cincinnati has a population of 504,000.

(c) **Existing Stations.** Crosley Broadcasting Corporation is licensed for the operation of Station WLWT on Channel 4. The Commission ordered the licensee to show cause why its license should not be modified to specify operation on Channel 5 in lieu of Channel 4. Radio Cincinnati, Inc., is licensed for the operation of Station WKRC-TV on Channel 11. The Commission ordered the licensee to show cause why its license should not be

[91] No request was made on the record for an educational reservation in Youngstown.

modified to specify operation on Channel 12 in lieu of Channel 11. Scripps-Howard Radio, Inc., is licensed for the operation of Station WCPO-TV on Channel 7. The Commission ordered the licensee to show cause why its license should not be modified to specify operation on Channel 9 in lieu of Channel 7.

(d) **Answers to Orders to Show Cause.** The Crosley Broadcasting Corporation did not object to the proposed modification of license of WLWT. Radio Cincinnati, Inc., supported the proposed modification of license of WKRC-TV. Scripps-Howard Radio, Inc., did not object to the proposed modification of license of WCPO-TV.

(e) **Counterproposal of L. B. Wilson, Inc.** L. B. Wilson, Inc. requested the assignment of an additional VHF channel to Cincinnati by making the following changes in the assignments proposed in the Third Notice:

City	Third Notice		Plan 1		Plan 2		Plan 3		Plan 4	
	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.
Cincinnati, O.	5, 9, 12	*48, 54	5, 9, 11†, 13†	*48, 54	5, 9, 11†, 13†	*48, 54	5,9,11†,13	*48,54	5,9,11†,13	*48,54
Indianapolis, Ind	6, 8, *13	20, 26	4†, 8, *12	20, 26	4†, 8, *12	20, 55†	6,8,*10†	20,26	6,8,*10†	20,55†
Huntington, W. Va.	8, 13	*53	8, 12†	*53	8, 12†	*53	8,12†	*53	8,12†	*53
Louisville, Ky.	3, 11	*15, 21	3, 6†	*15, 21	3, 6†	*15, 21	3,12†	*15,21	3,12†	*15,21
Bloomington, Ind.	4	*30, 36	10†	*30, 46	10†	*30, 36				
Clarksburg, W. Va.	12	22	5†	22	†	22, 48†		22	†	22,48†
Urbana, Ill.	*12	27, 33	*3†	27, 33	*3†	27, 33				
Terre Haute, Ind.	10	*57, 63	13†	*57, 63	†	41†, *57, 63	†	*57,63	†	41†,57,63
Springfield, Ill.	3	20, *26	12†	20, *26	12†	20, *26				
Kirksville, Mo.	12	18	3†	18	3†	18				
Paducah, Ky.	6	43	12†	43	12†	43				
Cape Girardeau, Mo.	12	18	6†	18	6†	18				
Rockford, Ill.	13	39, *45					†	39,*45	†	39,*45,51†
Chicago, Ill.	2, 5, 7, 9, *11	20, 26, 32, 38, 44					2,5,7,9 *11,13†	20,26,32 38,44	2,5,7,9, *11,13†	20,26,32 38,44
Muncie, Ind.		49, 55				23†, 49				23†,49
Connorsville, Ind.		38				32†				32
Richmond, Ind.		32				26†				26
Steubenville, O.		51				63†				63
Washington, Pa.		63				51†				51

(f) **Statement in Support of L. B. Wilson, Inc. Counterproposal.** L. B. Wilson, Inc., stated that Cincinnati is one of the outstanding cities of the Ohio Valley and the mid-west; that it is recognized as one of the outstanding wholesale markets and manufacturing centers; and that the need and interest for an additional television channel is evidenced by the 258,000 television receiving sets presently in the hands of consumers in the area.

(g) The counterproposals of L. B. Wilson, Inc. would result in the following co-channel separations below 170 miles in Zone I:

Channel	Cities	Plan	Separation
13	Terre Haute-Cincinnati	1	157 miles
5	Clarksburg-Cleveland (Station WEWS)	1	162 miles
4[92]	Indianapolis-Columbus (Station WLWC)	1	167.4 miles
4	Indianapolis-Columbus (Station WLWC)	2	167.4 miles
5	Clarksburg-Cleveland (Station WEWS)	3	162 miles
10	Indianapolis-Columbus (WBNS-TV)	3	167.5 miles
10	Indianapolis-Columbus (WBNS-TV)	4	167.5 miles

(h) The L. B. Wilson counterproposal would also result in oscillator radiation interference. Such interference would be encountered (1) in the Cincinnati area by the assignment of Channels 9 and 13 to that community (proposed by Plans 1, 2, 3 and 4), (2) in areas served jointly by a station in Dayton on Channel 7 and a station in Cincinnati on Channel 11 (proposed by Plans 1, 2, 3 and 4), (3) in the Indianapolis area by the assignment of Channels 8 and 12 in Indianapolis (proposed by Plans 1 and 2), and (4) by the assignment of Channels 8 and 12 in Huntington, West Virginia (Plans 1, 2, 3 and 4), and (5) by the assignment of Channels 9 and 13 in Chicago (proposed by Plans 3 and 4).

(i) **Oppositions and Conflicting Counterproposals to the L. B. Wilson, Inc. Counterproposal.** Oppositions to the counterproposal of L. B. Wilson, Inc., to add an additional channel at Cincinnati, Ohio, or counterproposals which conflict therewith have been filed by the following parties: Champaign News-Gazette, Champaign, Illinois; University of Illinois, Urbana, Illinois; Indianapolis Broadcasting, Inc., Indianapolis, Indiana; Universal Broadcasting Company, Indianapolis, Indiana; West Central Broadcasting Company, Inc., Peoria, Illinois; Ohio State University, Columbus, Ohio; Ashland Broadcasting Company, Ashland, Kentucky; Southern Illinois University, Carbondale, Illinois; William H. Block Company, Indianapolis, Indiana; Cedar Rapids Gazette, Cedar Rapids, Iowa; Mid-America Broadcasting Corporation, Louisville, Kentucky; WHAS, Inc., Louisville, Kentucky; Radio Cincinnati, Inc. (WKRC-TV) Cincinnati, Ohio; Quad-City Broadcasting Corporation, Moline, Illinois; Peoria Broadcasting Company, Peoria, Illinois; WCAE, Inc., Pittsburgh, Pennsylvania; WFBM, Inc., Indianapolis, Indiana; Wabash Valley Broadcasting Corporation, Terre Haute, Indiana; Crosley Broadcasting Corporation (WLWC), Columbus, Ohio; Dispatch Printing Company (WBNS-TV) Columbus, Ohio; Scripps-Howard Radio, Inc. (WEWS), Cleveland, Ohio; Rockford Broadcasters, Inc., Rockford, Illinois; joint opposition filed by Cleveland Broadcasting Company, Inc.; United Broadcasting Company; the WGAR Broadcasting Company and WJW, Inc., all of Cleveland, Ohio; WIBC, Inc., Indianapolis Indiana; Southeastern Ohio Broadcasting Company, Inc., Zanesville, Ohio; Radio Indianapolis, Inc., Indianapolis, Indiana; Hirsch Broadcasting Company, Cape Girardeau, Missouri; and Columbia Broadcasting System, Inc., Chicago, Illinois.

(j) **The Cincinnati Educational Reservation.** Civic, religious, and educational institutions supported the reservation of Channel 48 in Cincinnati for non-commercial educational use. No objection was filed to the reservation.

Conclusions: Request for Additional VHF Channel in Cincinnati

405. It is our view that the counterproposal of L. B. Wilson, Inc., requesting the assignment of a fourth VHF channel to Cincinnati must be denied. Following are the co-channel separations below 170 miles in Zone I which would result under the four alternative plans submitted by L. B. Wilson, Inc.:

Channel	Cities	Plan	Separation
13	Terre Haute-Cincinnati	1	157 miles
5	Clarksburg-Cleveland (Station WEWS)	1	162 miles
4	Indianapolis-Columbus (Station WLWC)	1	167.4 miles
4	Indianapolis-Columbus (Station WLWC)	2	167.4 miles
5	Clarksburg-Cleveland (Station WEWS)	3	162 miles
10	Indianapolis-Columbus (WBNS-TV)	3	167.5 miles
10	Indianapolis-Columbus (WBNS-TV)	4	167.5 miles

Since the foregoing separations are below the minimum of 170 miles provided for Zone I the alternative plans of L. B. Wilson cannot be adopted.

406. In addition alternative Plans 2 and 4 would substitute UHF channels for VHF channels proposed in the Third Notice for other cities and Plan 3 deletes VHF channels with no replacements therefor. The Commission, in the Third Notice, proposed the assignment of one VHF channel for Terre Haute, one VHF channel for Rockford, and one VHF channel for Clarksburg. Plan 2 would delete the only VHF channels proposed to be assigned at Terre Haute and Clarksburg. Plan 3 would delete the only VHF channels proposed to be assigned to Terre Haute and Rockford. Plan 4 would delete the only VHF channels proposed for Terre Haute, Clarksburg and Rockford. Under the foregoing plans, the number of possible VHF assignments would be decreased since the number of VHF assignments required to be deleted under each plan would exceed the number of VHF assignments which would be added. It is our view that the deletion of the only VHF channel assigned to these communities in order to assign a fourth VHF channel to Cincinnati is not warranted. In addition to the foregoing, each of L. B. Wilson's plans would result in oscillator radiation interference. In view of the foregoing, the counterproposal of L. B. Wilson, Inc., to assign an addtional VHF channel to Cincinnati is denied.

Conclusions: Additional Channel for Cincinnati

407. We are of the view that the assignment of an additional channel in Cincinnati is warranted on the basis of the record.[93] It was above noted that the counterproposal requesting an additional VHF channel for Cincinnati could not be granted. UHF Channel 74 in Cincinnati would meet the required mileage spacings for channel assignments in this zone. Accordingly, Channel 74 will be added to Cincinnati.

Conclusions: Show Cause Order

408. An appropriate authorization will be issued to Crosley Broadcasting Corp., to specify operation of Station WLWT on Channel 5. An appropriate authorization will be issued to Scripps-Howard Radio, Inc., to specify operation of WCPO on Channel 12. An appropriate authorization will be issued to Radio Cincinnati, Inc., to specify operation of WKRC-TV on Channel 12.

Conclusions: Cincinnati Educational Reservation

409. On the basis of the record the reservation of Channel 48 for non-commercial educational use in Cincinnati is finalized.

Final Assignments and Reservation

410. The following assignments and reservation are adopted:

City	VHF Channel No.	UHF Channel No.
Cincinnati, Ohio	5, 9, 12	*48, 54, 74

CLEVELAND AND SANDUSKY, OHIO

411. (a) **Proposed Assignments and Reservation.** In the Third Notice the Commission proposed the assignment to Cleveland of VHF Channels 3, 5, and 8, and UHF Channels 19 and 25 with Channel 25 to be reserved for non-commercial educational use, and the assignment to Sandusky of UHF Channel 59.

(b) **Census Data.** The Cleveland standard metropolitan area has a population of 1,466,000 and the City of Cleveland has a population of 915,000. The City of Sandusky has a population of 29,000.

(c) **Existing Stations.** The National Broadcasting Company, Inc., is licensed for the operation of Station WNBK Cleveland, on Channel 4. The Commission ordered the licensee to show cause why its license should not be modified to specify operation on Channel 3 in lieu of Channel 4. Empire Coil Co., Inc., is licensed for the operation of Station WXEL on Channel 9 in Cleveland. The Commission ordered the licensee to show cause why its license should not be modified to

[92] Station WTVN and WFBM-TV are licensed to operate on Channel 6 at Columbus and Indianapolis, respectively. The Third Notice proposed to continue the assignment of Channel 6 to both cities. Plans 1 and 2 of the L. B. Wilson, Inc., counterproposal would substitute Channel 4 for Channel 6 at Indianapolis thereby requiring modification of the WFBM-TV license.

[93] See also our discussion above in connection with the addition of a UHF channel to Pittsburgh.

specify operation on Channel 8 in lieu of Channel 9. Scripps-Howard Radio, Inc., is licensed for the operation of Station WEWS on Channel 5 in Cleveland.

(d) **Answers to Orders to Show Cause.** The National Broadcasting Company, Inc., supported the proposed modification of the WNBK license, and Empire Coil, Inc., supported the proposed modification of the WXEL license.

Cleveland

412. (a) **Joint Counterproposal of Cleveland Broadcasting Company, Inc., United Broadcasting Company; the WGAR Broadcasting Company; and WWJ, Inc.** The above named parties filed a joint counterproposal which would add UHF Channels 31, 59 and 65 to Cleveland and change the educational reservation from Channel 25 to Channel 65. Channel 65 would be added without making other changes in the channels proposed to be assigned in the Third Notice; Channel 59 would be added by substituting Channel 42 for Channel 59 at Sandusky, Ohio; and Channel 31 would be added by making the following other changes in the channel assignments proposed in the Third Notice:

City	Third Notice		Proposed Changes	
	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.
Cleveland, Ohio	3, 5, 8	19, *25	3, 5, 8	19, 25, 31†
Detroit, Mich.	2, 4, 7	50, *56, 62	2, 4, 7	38†, *56, 62
DuBois, Pa.		31		60†
Findlay, Ohio		53		24†
Gallipolis, Ohio		18		33†
Lexington, Ky.		27, 33		18†, 27
Lorain, Ohio		31		23†
Marion, Ohio		17		18†
Massillon, Ohio		23		53†
Pittsburgh, Pa.	2, 11, *13	47, 53	2, 11, *13	16†, 47
Windsor, Ont.	9	32, 38	9	32, 50†

(b) **Statement in Support of the Joint Counterproposal.** The parties stated in support of the joint counterproposal that the four commercial channels proposed by the Third Notice are inadequate to meet the needs of Cleveland; that Cleveland is Ohio's largest city and the seventh largest city in population in the United States; that there is a strong demand in the area for additional television service; and that there are approximately 500,000 television receivers in the Cleveland area.

(c) **Opposition and Conflicting Counterproposals.** The request to add Channel 65 to Cleveland is mutually exclusive with the counterproposal of WCAE, Inc., at Pittsburgh, Pennsylvania, and the counterproposal of the Trebit Corporation at Flint, Michigan. The counterproposals of both WCAE, Inc., and the Trebit Corporation have been denied elsewhere in this Report for the reason there stated. The request to assign Channel 59 to Cleveland by substituting Channel 42 in Sandusky, Ohio for Channel 59 is not in conflict with any other counterproposals nor have oppositions been filed thereto. Oppositions or conflicting counterproposals to the counterproposal to assign Channel 31 to Cleveland have been filed by Pittsburgh Radio Supply House, Pittsburgh, Pennsylvania; WVBP, Beaver Falls, Pennsylvania; and Tri-County Broadcasting Company, DuBois, Pennsylvania.

(d) **The Cleveland Educational Reservation.** The Board of Education and the Superintendent of Schools supported the reservation of Channel 25 in Cleveland for noncommercial educational use. No objection was filed to the reservation of a channel, however, the joint counterproposal of Cleveland Broadcasting Company, et al, which requests that UHF Channel 65 be added to Cleveland also requests that Channel 65 be reserved in lieu of Channel 25.

Conclusions: Additional UHF Channels

413. It is our view that the record warrants the additional assignment of a UHF channel to Cleveland, Ohio' largest city and the seventh largest city in population in the United States. We are not of the opinion, however, that the record supports the addition of more than one UHF channel to Cleveland. We believe that the assignment of one additional channel making a total of 6 channels to a community the size of Cleveland compares favorably with the number assigned to communities of similar size. Moreover, the availability of additional channels, for assignment in the area, particularly in the 782-890 Mc. band, is extremely limited and the assignment of a greater number of channels to Cleveland would decrease the availability of such channels to other cities and communities in the area. There remains for decision which of the three channels requested by the joint counterproposal should be assigned as an additional channel for Cleveland and what other changes, if any, should be adopted. It is our view that the most efficient assignment plan for the area is created if Channel 65 is added to Cleveland and Channel 42 is substituted for Channel 59 in Sandusky. Channel 59 will remain unassigned in the area and thus will be available for assignment later in accordance with the procedures adopted herein. It is our view that other changes in channel assignments which were requested by the counterproposal, should not be adopted.

Conclusions: The Educational Reservation

414. It is our view that the record supports the proposed reservation of Channel 25 in Cleveland for non-commercial educational use. The Commission does not recognize differences in UHF channels for assignment purposes. We see no merit, therefore, in the request of the Cleveland parties that the educational reservation be shifted from Channel 25 to Channel 65 and this request is denied.

Conclusions: Show Cause Orders

415. An appropriate authorization will be issued to National Broadcasting Company, Inc., to specify operation of WNBK on Channel 3. An appropriate authorization will be issued to Empire Coil Company, Inc. to specify operation of WXEL on Channel 8.

Final Assignments and Reservation

416. The following assignments and reservation are adopted:

City	VHF Channel No.	UHF Channel No.
Cleveland, Ohio	3, 5, 8	19, *25, 65
Sandusky, Ohio		42

COLUMBUS, OHIO

(a) **Proposed Assignments and Reservation.** In the Third Notice the Commission proposed the assignment to Columbus of VHF Channels 4, 6 and 10, and UHF Channels 34 and 40 with Channel 34 to be reserved for non-commercial educational use.

(b) **Census Data.** The Columbus standard metropolitan area has a population of 503,000 and the City of Columbus has a population of 389,000.

(c) **Existing Stations.** Crosley Broadcasting Corporation is licensed for the operation of Station WLWC on Channel 3. The Commission has ordered the licensee to show cause why its license should not be modified to specify operation on Channel 4 in lieu of Channel 5. The Dispatch Printing Company is licensed for the operation of Station WBNS-TV on Channel 10. Picture Waves, Inc., is licensed for the operation of Station WTVN on Channel 6.

(d) **Answer to Order to Show Cause.** The Crosley Broadcasting Corporation has not objected to the proposed modification of the WLWC license.

(e) **Counterproposal of Ohio State University.** Ohio State University requested the additional assignment of VHF Channel 12 to Columbus and the reservation of that channel for non-commercial educational use by making the following changes in the assignments proposed in the Third Notice:

City	Third Notice		Proposed Changes	
	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.
Columbus, Ohio	4, 6, 10	*34, 40	4, 6, 10, *12†	*34, 40
Cincinnati, Ohio	5, 9, 12	*48, 54	5, 9, 13†	*48, 54
Clarksburg, W. Va.	12	22	†	22
Cumberland, Md.		17	12†	17
Indianapolis, Ind.	6, 8, *13	20, 26	6, 8, †	20, 26 [**]
Huntington, W. Va.	8, 13	*53	8, †	*53

(f) **Statement in Support of Ohio State University Counterproposal.** In support of its counterproposal Ohio State University stated that it is the largest institution of higher education in Ohio; that it expects to construct a VHF educational station immediately if Channel 12 is assigned to Columbus and reserved for non-commercial educational use; that adequate funds are available for the construction and operation of a station; that it began broadcasting educational programs in 1922; that it broadcasts programs direct to classroom receivers in Ohio schools; and that the annual budget for the operation of its stations is over $150,000. With respect to the requested substitution of a UHF channel for the VHF channel proposed for Clarksburg in the Third Notice, it was asserted that Clarksburg, West Virginia, could best be served by UHF channels exclusively: that the use of UHF in Clarksburg and Huntington, West Virginia would be practical; that the deletion of VHF Channel 12 from Clarksburg and the addition of that channel to Cumberland, Maryland, would provide VHF service to a larger community; that the deletion of VHF Channel *13 from Indianapolis would not deprive Indianapolis of a commercial VHF service; that if a UHF channel were reserved for educational use in Indianapolis a strong incentive would be furnished present set owners to buy adapters to receive UHF signals; that a VHF channel in Columbus could provide educational television service in the immediate future to 55 percent of the homes in the Columbus area now equipped with VHF sets (229,000 sets as of October 1, 1951) and that the operation of a UHF station in Columbus is a commercial impossibility and an educational impracticability. The Ohio State University counterproposals would result in oscillator radiation interference in the Cincinnati area by the assignment of Channels 9 and 13 to that community.

(g) The Columbus Public Schools supported the reservation of Channel 34 in Columbus for non-commercial educational use. Aside from the position taken by Ohio State University no objection was filed to the reservation of this channel.

(h) **Oppositions and Conflicting Counterproposals to the Counterproposal of Ohio State University.** Oppositions and conflicting counterproposals were filed by: Radio Cincinnati, Inc., Cincinnati, Ohio; Clarksburg Broadcasting Corp., and Ohio Valley Broadcasting Corp., both of Clarksburg, West Va.; Universal Broadcasting Company, Inc., Crosley Broadcasting Corporation, WIBC, Inc., William H. Block Company, and Indianapolis Broadcasting Company, all of Indianapolis, Indiana; Huntington Radio Corporation, Huntington, West Va., and Ashland Broadcasting Company, Ashland, Kentucky.

Conclusions: Columbus Educational Reservation

418. It is our view that the counterproposal of Ohio State University should be denied since it would result in an inefficient utilization of the available frequencies. The counterpsoposal would delete VHF channels from three other cities of large size and importance and would assign VHF channels to only two cities in order to secure an additional assignment for Columbus.

We do not believe that the record supports the basis for this reduction in the total number of assignments proposed in the Third Notice. Further, the counterproposal would delete the only VHF assignment at Clarksburg, West Virginia, with a population of 32,000; reduce the VHF assignments at Huntington, West Virginia, with a population of 86,000 and a metropolitan area population of 246,,000 from two to one; and reduce from three to two the VHF assignments pro-

[**] The counterproposal did not specify the channel to be reserved for non-commercial educational use in Indianapolis.

posed for Indianapolis, with a population of 427,000 and a metropolitan area population of 552,000. We do not believe this reduction in service is justified by the additional assignment of one VHF channel to Cumberland with a population of 38,000 (where no request for such assignment has been made by any Cumberland party); and the increase in the VHF assignments of Columbus from three to four. The counterproposal would also result in oscillator radiation interference. Accordingly, the counterproposal of Ohio State University for the additional assignment of VHF Channel 12 to Columbus and its reservation for non-commercial educational use is denied; and the proposed reservation of Channel 34 for non-commercial educational use in Columbus is finalized.

Conclusions: Show Cause Order

419. An appropriate authorization to Crosley Broadcasting Corporation will be issued to specify operation of Station WLWC on Channel 4.

Final Assignments and Reservation

420. The following assignments and reservation are adopted:

City	VHF Channel No.	UHF Channel No.
Columbus, Ohio	4, 6, 10	*34, 40

HUNTINGTON AND CHARLESTON, WEST VIRGINIA

421. (a) **Proposed Assignments and Reservations.** In the Third Notice the Commission proposed the following assignments and reservations:

City	VHF Channel No.	UHF Channel No.
Huntington, W. Va.	8, 13	*53
Charleston, W. Va.	3	*43, 49

(b) **Census Data.** The standard metropolitan area of Huntington has a population of 246,000 and the City of Huntington has a population of 86,000. The metropolitan area of Charleston has a population of 322,000 and the city of Charleston has a population of 74,000.

(c) **Existing Stations.** WSAZ, Inc. is licensed for the operation of Station WSAZ-TV on Channel 5 in Huntington. The Commission has ordered the licensee to show cause why its license should not be modified to specify operation on Channel 8 in lieu of Channel 5.

Huntington

422. (a) **Answer to Order to Show Cause and Counterproposal of WSAZ, Inc.** WSAZ, Inc. opposed the Commission's proposal that it move its existing station to Channel 8, and has made a counterproposal requesting that the license of WSAZ-TV be modified to specify operation on Channel 3. This change could be accomplished by substituting the assignment of Channel 3 for Channel 8 in Huntington and substituting the assignment of Channel 8 for Channel 3 in Charleston, West Virginia.

(b) **Statement in Support of Counterproposal of WSAZ, Inc.** WSAZ, Inc. asserted that the cost of conversion from Channel 5 to Channel 8 would be substantially greater than the cost of conversion from Channel 5 to Channel 3; that changing to Channel 8 would require existing set owners to change their antennas which would not be necessary if the change were to Channel 3.

(c) **Oppositions and Conflicting Counterproposals to Counterproposals of WSAZ, Inc.** No oppositions or conflicting counterproposals were filed to the counterproposal of WSAZ, Inc., to assign Channel 3 to Huntington in exchange for Channel 8 and for modification of the WSAZ-TV license to specify operation on Channel 3.

(d) **The Huntington Educational Reservation.** The JCET, Marshall College, and the Board of Education supported the reservation of Channel 53 in Huntington for non-commercial educational use. No objection was filed to the reservation of this channel.

Charleston

423. **The Charleston Educational Reservation.**

The JCET, Morris Harvey College and the Kanawha County Schools supported the reservation of Channel 43 in Charleston for non-commercial educational use. No opposition was filed to the reservation of this channel.

Conclusions: Educational Reservations

424. In view of the foregoing, the reservations of Channel 53 in Huntington and Channel 43 in Charleston for non-commercial educational use are finalized.

Conclusions: Show Cause Order

425. It is our view that the counterproposal of WSAZ, Inc. is meritorious, and it is therefore granted. An appropriate authorization to WSAZ, Inc. will be issued to specify operation of WSAZ-TV on Channel 3.

Final Assignments and Reservations

426. The following assignments and reservations are adopted:

City	VHF Channel No.	UHF Channel No.
Huntington, W. Va.	3, 13	*53
Charleston, W. Va.	8	*43, 49

ZANESVILLE, OHIO, AND CLARKSBURG, WEST VIRGINIA

427. (a) **Proposed Assignments.** In the Third Notice the Commission proposed the following assignments:

City	VHF Channel No.	UHF Channel No.
Zanesville, Ohio		50
Clarksburg, W. Va.	12	22

(b) **Census Data.** The population of Zanesville is 41,000. The population of Clarksburg is 32,000.

(c) **Counterproposal of Southeastern Ohio Broadcasting System, Inc.** Southeastern Ohio Broadcasting System, Inc., requested the deletion of Channel 12 from Clarksburg and its assignment to Zanesville by making the following changes in the assignments proposed in the Third Notice:

City	Third Notice VHF Channel No.	Third Notice UHF Channel No.	Proposed Changes VHF Channel No.	Proposed Changes UHF Channel No.
Zanesville, Ohio		50	12+	50
Clarksburg, W. Va.	12	22	†	22, 65+
Cincinnati, Ohio	5, 9, 12	*48, 54	5, 9, 11+	*48, 54
Louisville, Ky.	3, 11	*15, 21	3, 12+	*15, 21

(d) **Statement in Support of Southeastern Ohio Broadcasting System, Inc. Counterproposal.** Southeastern Ohio Broadcasting System urged that its proposal would result in the assignment of an additional channel to Zanesville, without reducing the number of channels for any community; that the assignment of Channel 12 to Zanesville, instead of to Clarksburg, would result in a more efficient utilization of channels, and that the assignment of the VHF channel in Zanesville would provide service in an area where there are many VHF receivers.

City	VHF Channel No.	UHF Channel No.
Zanesville, Ohio		50
Clarksburg, W. Va.	12	22

(e) **Oppositions and Conflicting Counterproposals to the Southeastern Ohio Broadcasting System, Inc. Counterproposal.** Oppositions and conflicting counterproposals have been filed by Ohio Valley Broadcasting Company, Clarksburg, West Virginia; Radio Cincinnati, Inc., Cincinnati, Ohio; L. B. Wilson, Inc., Cincinnati, Ohio; and Ohio State University, Columbus, Ohio.

(f) The Southeastern Ohio Broadcasting System, Inc. counterproposal would result in oscillator radiation interference in areas served by a station operating on Channel 11 in Cincinnati and a station operating on Channel 7 in Dayton, Ohio. Such interferences would be within the Grade A service areas of these stations.

Conclusions

428. We are of the opinion in view of the foregoing that the record does not support the deletion of the only VHF channel for Clarksburg, West Virginia. As we pointed out in the Third Notice, efforts have been made to minimize oscillator radiation interfernce without reducing the number of VHF assignments in the proposed table. The Southeastern proposal would result in no additional VHF assignment and in addition would create oscillator radiation interference from the operation of Channel 11 in Cincinnati and Channel 7 in Dayton. Accordingly, we believe that the assignment of Channel in Cincinnati in view of the assignment of Channel 7 in Dayton, O is not as engineeringly sound the assignment of Channel 12 Cincinnati. In view of the fo going, the counterproposal Southeastern Ohio Broadcast System, Inc. is denied.

Final Assignments

429. The following assignme are adopted:

City	VHF Channel No.	UHF Channel No.
Zanesville, Ohio		50
Clarksburg, W. Va.	12	22

INDIANAPOLIS, INDIANA

430. (a) **Proposed Assignme and Reservations.** In the Th Notice the Commission propos the following assignments and servation:

City	VHF Channel No.	UHF Channel No.
Indianapolis	6, 8, *13	20, 26

(b) **Census Data.** The standa metropolitan area of Indianapo has a population of 552,000 a the city of Indianapolis has a popu lation of 427,000.

(c) **Existing Stations.** WFB Inc., is licensed for the operation Station WFBM-TV on Channel

(d) **Counterproposal of WIB Inc.** WIBC, Inc., requested th additional assignment of Chann 4 to Indianapolis by substitutin UHF Channel 51 in Terre Hau Indiana for VHF Channel and by making the followi changes in the assignments pr posed in the Third Notice:[66]

City	Third Notice VHF Channel No.	Third Notice UHF Channel No.	Proposed Changes VHF Channel No.	Proposed Changes UHF Channel No.
Indianapolis, Ind.	6, 8, *13	20, 26	4+, 6, 8, 13	*20, 3
Terre Haute, Ind.	10	*57, 63	†	51+, *57, 6
Bloomington, Ind.	4	*30, 36	10+	*30, 3
Logansport, Ind.		51		53+
Vincennes, Ind.		44		16+
Lincoln, Ill.		53		55+
Olney, Ill.		16		44+
Findlay, Ohio		53		39+

(e) **Statement in Support WIBC, Inc. Counterpropos** WIBC, Inc., urged that the publ interest requires the grant of a additional assignment to Indiana olis where this can be achieve without reducing the number channels assigned to any comm nity. WIBC, Inc., contended th its counterproposal would resu in a gain of Grade B service a that the size and economic impo tance of the Indianapolis area necessitate the assignment of an ad tional VHF channel for that com munity. WIBC, Inc., argued th since Terre Haute presently has "reliable" VHF service and fe VHF receivers outstanding, thi community could utilize a UH channel instead of a VHF chann without rendering any sizable pu lic investment obsolete. WIB Inc., submitted that its counte proposal would encourage the po ularity and growth of UHF a would foster competition in Ter Haute.

(f) The assignment of Chann 4 in Indianapolis would result a 168 mile co-channel assignme separation between Indianapol and Columbus, Ohio. The minimu co-channel assignment separati for this zone is 170 miles. T WIBC, Inc., counterproposal woul also assign UHF Channel 51 t

[66] WIBC, Inc., also requested that th educational reservation in Indianapol be moved to a UHF channel.

Terre Haute at a distance of only 49 miles from Bloomington where UHF Channel 36 is assigned by the Commission. Channels 36 and 51 must be 75 miles apart in order to satisfy the mileage separation required to prevent picture image interference.

(g) **Conflicting Counterproposals and Oppositions to the WIBC, Inc. Counterproposal.** The WIBC, Inc., counterproposal is mutually exclusive with the following other counterproposals: Joint counterproposal of Cleveland Broadcasting Company, Inc., United Broadcasting Company, WGAR Broadcasting Company, and WWJ, Inc.; Ohio State University; Columbia Broadcasting System, Inc.; Radio Indianapolis, Inc.; Logansport Broadcasting Corporation and Owensboro On The Air, Inc.; Radio Kentucky, Inc.; Southern Illinois University; Champaign News Gazette; and Evansville Chamber of Commerce. In addition, oppositions to the WIBC, Inc., counterproposal were filed by the following parties: Crosley Broadcasting Corporation, Columbus, Ohio; Wabash Valley Broadcasting Company; Columbia Broadcasting System, Inc., and Logansport Broadcasting Corporation and Owensboro On The Air, Inc.

(h) **Counterproposal of William H. Block Company.** William H. Block Company requested the additional assignment of VHF Channel 10 to Indianapolis by substituting UHF Channel 41 in Terre Haute for Channel 10, as follows:

City	Third Notice		Proposed Changes	
	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.
Indianapolis, Ind.	6, 8, *13	20, 26	6, 8, 10†, *13	20, 26
Terre Haute, Ind.	10	*57, 63	†	41†, *57, 63

(i) **Statement in Support of William H. Block Company Counterproposal.** William H. Block Company urged that the assignment of Channel 10 in Indianapolis would provide a new television service to a greater number of persons as compared with the utilization of Channel 10 in Terre Haute. While the assignment of Channel 10 to Indianapolis would result in a 168 mile separation between that city and Station WBNS-TV presently operating on Channel 10 in Columbus, Ohio, William H. Block Company contended that a transmitter site could be selected in Indianapolis to provide 170 mile co-channel spacing. It was also urged that even with a 168 mile separation, interference would not be substantial. The William H. Block Company counterproposal would assign UHF Channel 41 to Terre Haute, 70 miles from Indianapolis where UHF Channel 26 is assigned by the Commission. Channels that are thus spaced 15 apart are required to have a separation of 75 miles in order to prevent picture image interference. William H. Block Company contended that a separation of 75 miles between transmitters could be achieved and that no objectionable interference would result.

(j) **Conflicting Counterproposals and Oppositions to the William H. Block Company Counterproposal.** The counterproposal of William H. Block Company is mutually exclusive with the following other counterproposals: Logansport Broadcasting Corporation and Owensboro On the Air, Inc.; Ohio State University; Columbia Broadcasting System, Inc., Chicago, Illinois; L. B. Wilson, Inc.; and Mid-American Broadcasting Corporation. In addition, oppositions to the counterproposal of William H. Block Company were filed by the following parties: Dispatch Printing Company; Columbia Broadcasting System, Inc., Chicago, Illinois; Mid-American Broadcasting Corporation; Wabash Valley Broadcasting Company and Logansport Broadcasting Corporation and Owensboro On The Air, Inc.

(k) **Counterproposal of Radio Indianapolis, Inc.** Radio Indianapolis, Inc., requested the additional assignment of UHF Channel 38, or a channel in the 782-890 Mc. band to Indianapolis by making the following changes in the assignments proposed in the Third Notice:[96]

City	Third Notice		Proposed Changes	
	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.
Indianapolis, Ind.	6, 8, *13	20, 26	6, 8, 13	*20, 26, 38† (or flex. chan.)[97]
Connersville, Ind.		38		45†
Kokomo, Ind.		31		29†
Marion, Ind.		29		31†

(l) **Statement in Support of Radio Indianapolis, Inc. Counterproposal.** Radio Indianapolis, Inc. contended that the assignment of UHF Channel 38 in Indianapolis could be accomplished in compliance with the minimum separation requirements with the exception that Channel 45 at Connersville, Indiana, would be only 53 miles from Indianapolis. Channels 38 and 45, being 7 channels apart, must be separated by at least 60 miles to prevent interference due to oscillator radiation.

(m) **Oppositions and Conflicting Counterproposals to the Radio Indianapolis, Inc. Counterproposal.** Conflicting counterprosals and oppositions to the counterproposal of Radio Indianapolis, Inc., for Channel 38 have been filed by WIBC, Inc., Indianapolis, Indiana and Columbia Broadcasting System, Inc., Chicago, Illinois. In addition, the Radio Indianapolis, Inc. counterproposal conflicts with the counterproposal of L. B. Wilson, Inc. for Cincinnati, Ohio.

(n) **The Indianapolis Educational Reservation.** Indianapolis Broadcasting, Inc.; Universal Broadcasting Company; WIBC, Inc.; and Radio Indianapolis, Inc., all of Indianapolis, filed counterproposals requesting that the educational reservation in Indianapolis be removed from VHF Channel 13 and shifted to a UHF channel. In support of its counterproposal, Indianapolis Broadcasting, Inc. submitted letters from Indiana University, Butler University, DePauw University, Wabash College, Jordan College of Music, Franklin College, Purdue University, Indianapolis Public Schools, and the Superintendent of Schools of the Archdiocese of Indianapolis, stating that these institutions did not intend to utilize VHF Channel 13 in Indianapolis for non-commercial educational purposes and indicating that the reservation of a UHF channel would satisfy their requirements. No sworn statements were filed by educators in Indianapolis supporting the reservation of Channel 13. The JCET submitted a sworn statement supporting the reservation of UHF Channel 20 for non-commercial educational use in Indianapolis based on the stated preference of the educational institutions in the Indianapolis area for a UHF reservation rather than VHF Channel 13.

Conclusions: Indianapolis Educational Reservation

431. Both commercial and educational interests in Indianapolis have requested that the educational reservation be shifted from VHF Channel 13 to a UHF channel, and the JCET has urged the reservation of UHF Channel 20 in Indianapolis for non-commercial educational purposes. The evidence indicates, therefore, that the educators in Indianapolis do not intend to utilize VHF Channel 13 for non-commercial educational purposes and that the reservation of a UHF channel would satisfy the needs of the educators in this community.

City	VHF Channel No.	UHF Channel No.
Indianapolis	6, 8, 13	*20, 26, 67

On this basis the JCET supported the reservation of UHF Channel 20 in Indianapolis. In light of the above, we believe the record requires the shifting of the educational reservation from VHF Channel 13 to UHF Channel 20. Accordingly, the counterproposals of Indianapolis Broadcasting, Inc.; Universal Broadcasting Company; WIBC, Inc.; and Radio Indianapolis, Inc., in so far as they request the shifting of the educational reservation in Indianapolis to a UHF channel, are granted. UHF Channel 20 will be reserved in Indianapolis for non-commercial educational use.

Conclusions: Additional UHF Assignment in Indianapolis

432. The additional assignment in Indianapolis of Channel 4, as requested by WIBC, Inc., or of Channel 10, as requested by William H. Block Company, can be accomplished only by substituting a UHF channel for the only VHF assignment in Terre Haute. We do not believe that the assignment of an additional VHF channel to Indianapolis at the expense of the only VHF channel in Terre Haute, a community of 64,000, is warranted. Moreover, the assignment of Channel 4 or Channel 10 in Indianapolis would result in co-channel assignment separations between Indianapolis and Columbus below 170 miles, the minimum assignment separation for this zone; and the assignment of UHF Channel 51 to Terre Haute as proposed by WIBC, Inc., and of UHF Channel 41 to Terre Haute as proposed by William H. Block Company, would also result in separation below the minimum. In light of the foregoing, the counterproposals of WIBC, Inc. and William H. Block Company for the assignment of an additional VHF channel in Indianapolis are denied.

Conclusions: Additional UHF Assignment in Indianapolis

433. We believe that the record supports the addition of a UHF channel in Indianapolis. However, the counterproposal of Radio Indianapolis, Inc. to assign Channel 38 to that community cannot be granted since it would result in assignment separations below the minimum. However, the alternative request of Radio Indianapolis, Inc. seeking a channel in the 782-890 Mc band for Indianapolis can be granted since Channel 67 can be utilized in that city. Accordingly, the counterproposal of Radio Indianapolis, Inc. in so far as it requests the assignment of a channel in the 782-890 MC band in Indianapolis, is granted.

Final Assignments and Reservation

434. The following assignments and reservation are adopted:

LOGANSPORT, INDIANA AND OWENSBORO, KENTUCKY

435. (a) **Proposed Assignments.** In the Third Notice the Commission proposed the following aslowing assignments for Logansport, Indiana and Owensboro, Kentucky:

City	VHF Channel No.	UHF Channel No.
Logansport, Ind.		51
Owensboro, Ky.		14

(b) **Census Data.** The population of Logansport is 21,000 and the population of Owensboro is 34,000.

(c) **Counterproposal of Logansport Broadcasting Corporation and Owensboro On The Air, Inc.** A joint counterproposal was filed by Logansport Broadcasting Corporation, Logansport, Indiana, and Owensboro On The Air, Inc., Owensboro, Kentucky, requesting the additional assignment of Channel 10 to both Logansport and Owensboro to be accomplished by shifting Terre Haute, Indiana, from VHF Channel 10 to a UHF channel as follows:

City	Third Notice		Proposed Changes	
	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.
Owensboro, Ky.		14	10†	14
Logansport, Ind.		51	10†	51
Terre Haute, Ind.	10	*57, 63	†	34†, *57, 63

(d) **Statement in Support of Counterproposal of Logansport Broadcasting Corporation and Owensboro On The Air, Inc.** Logansport Broadcasting Corporation and Owensboro On The Air, Inc.,

[96] Radio Indianapolis, Inc. also requested that the educational reservation in Indianapolis be shifted to a UHF channel.

[97] No changes would be required to assign a channel in the 782-890 Mc. band to Indianapolis.

contended that the assignment of Channel 10 to both Logansport and Owensboro would provide service to a greater area and number of persons as compared with the assignment of Channel 10 in Terre Haute. Logansport Broadcasting Corporation and Owensboro On The Air, Inc., suggested UHF Channel 34 as a replacement for VHF Channel 10 in Terre Haute. It was recognized, however, that Channel 34 at Terre Haute, being only 152 miles from the co-channel assignment at Carbondale, Illinois, would not meet the minimum separation for co-channel UHF assignments in this area. It was also suggested that UHF Channel 51, as proposed by WIBC, Inc., or UHF Channel 41 as proposed by William H. Block Company, in connection with their counterproposal for Indianapolis, be assigned in Terre Haute to replace VHF Channel 10.[98]

(e) Conflicting Counterproposals and Oppositions to the Logansport Broadcasting Corporation and Owensboro On The Air, Inc. Counterproposal. The Logansport-Owensboro counterproposal conflicts with the following other counterproposals: William H. Block Company, Indianapolis, Indiana; WIBC, Inc., Indianapolis, Indiana; L. B. Wilson, Inc., Cincinnati, Ohio; Twin Valley Broadcasters, Inc., Coldwater, Michigan; Quad-City Broadcasting Corp., Moline, Illinois; Michigan State College, East Lansing, Michigan; WJR, The Goodwill Station, Inc., Detroit, Michigan; and University of Southern Illinois, Carbondale, Illinois. In addition, oppositions to the Logansport-Owensboro counterproposal were filed by the following parties: Wabash Valley Broadcasting Company, Terre Haute, Indiana; WIBC, Inc., Indianapolis, Indiana; William H. Block Company, Indianapolis, Indiana; and WJR, The Goodwill Station, Inc., Detroit, Michigan.

Conclusions

436. The counterproposal of Logansport Broadcasting Corporation and Owensboro On The Air, Inc., would assign Channel 10 in both Logansport and Owensboro by deleting the only VHF channel from Terre Haute, a community of 64,000 in a metropolitan area of 105,000. However, the combined population of both Logansport and Owensboro is less than the population of Terre Haute. In view of the size and importance of Terre Haute, we do not believe that Channel 10 should be deleted from Terre Haute to provide a VHF channel for Logansport and Owensboro. In light of the foregoing, the counterproposal of Logansport Broadcasting Corporation and Owensboro On The Air, Inc., is denied.

Final Assignments

437. The following assignments are adopted:

City	UHF Channel No.
Logansport, Ind.	51
Owensboro, Ky.	14

FORT WAYNE, INDIANA

438. (a) **Proposed Assignments and Reservations.** In the Third Notice the Commission proposed the assignment of three UHF channels to Fort Wayne, Indiana: Channels 21, 27 and 33, with Channel 27 reserved for non-commercial educational use.

(b) **Census Data.** The Fort Wayne standard metropolitan area has a population of 184,000 and the City of Fort Wayne has a population of 134,000.

(c) **Counterproposal of Indiana Technical College.** Indiana Technical College of Fort Wayne filed a counterproposal requesting the additional assignment of VHF Channel 5 to Fort Wayne, with power limited to 14 kw, to be reserved for non-commercial educational use in lieu of UHF Channel 27.

(d) **Statement in support of Indiana Technical College Counterproposal.** Indiana Technical College stated that the assignment of a VHF channel in Fort Wayne would make possible the immediate initiation of a non-commercial educational television service. Indiana Technical College stated that it had received as donations much of the equipment necessary for the construction of a VHF station. None of this equipment would be adaptable for use in the UHF band. Accordingly, the Indiana Technical College stated that if a VHF channel is not assigned to Fort Wayne for non-commercial educational use, "it seems very doubtful at the present time that the necessary funds and community interest to support a non-commercial educational UHF outlet in Fort Wayne could be found for several, perhaps many, years to come." The Mayor of Fort Wayne stated that the city has appropriations set aside for such purposes and that as much financial assistance as possible would be given, along with full assistance in connection with programming. The Paterson-Fletcher Company, Rea Magnet Wire Company and other business organizations pledged their full cooperation in helping to finance the construction and operation of a non-commercial educational station in Fort Wayne. The following organizations in Fort Wayne stated their intention of assisting in the programming of the proposed educational station: Fort Wayne-Allen County Chapter of the Red Cross, Superintendent of Schools, Concordia College, St. Francis College, Fort Wayne Bible College, Public Library, Fort Wayne Art School and Museum, Fort Wayne Civic Theatre, Fort Wayne Musical Society, Chamber of Commerce. The film library of WOI-TV in Ames, Iowa, has been placed at the disposal of Indiana Technical College for use on the proposed educational station. Galbreath Pictures Production, Inc., has made available to the College its film library for use on the proposed station and has offered to lend assistance in any television production problems. The Capehart - Farnsworth Corporation has given the support of its organization and engineering personnel to the television activities of the College. The Indiana Technical College stated that the Fort Wayne community enthusiastically supported the establishment of an educational television station in Fort Wayne.

(e) Channel 5 in Fort Wayne would be 143 miles from existing television Station WNBQ in Chicago and 139 miles from existing Station WLWT in Cincinnati, both operating on Channel 5. However, Indiana Technical College stated that no limitation on the operation of Stations WNBQ and WLWT would be necessary if a maximum of 14 kw power at an antenna height of 500 feet would be specified in the use of Channel 5 at Fort Wayne. By limiting power to 14 kw at Fort Wayne, Indiana Technical College asserted that interference to the Grade A service areas of WNBQ and WLWT would be avoided entirely and that less interference would be caused to the Grade B service areas of these stations than would result from the assignment of a station employing 100 kw power at a separation of 180 miles. In was also contended that all of the Grade B area loss due to the operation of a station in Fort Wayne on Channel 5 as proposed would receive service from other stations. Indiana Technical College stated that a station operating on Channel 5 in Fort Wayne as proposed would have an interference-free Grade A service radius of 17.3 miles and a Grade B interference-free service radius varying from a minimum of 25.1 to a maximum of 34 miles.

(f) Indiana Technical College argued that precedent exists for affording assistance to non-commercial educational television broadcasting, including the operation with low power. In addition to the reservation policy adopted by the Commission, Indiana Technical College pointed to the concessions made to non-commercial FM stations including permission to operate with powers of 10 watts and less. In connection with AM broadcasting, the College submitted that the Commission granted many exceptions to its general rules, including permission for educational licensees to discontinue broadcasts during the summer months. Accordingly, Indiana Technical College requested the assignment of Channel 5 in Fort Wayne to be utilized with low power.

(g) **Opposition to the Indiana Technical College Counterproposal.** Crosley Broadcasting Corporation, licensee of Station WLWT, Cincinnati, Ohio, and National Broadcasting Company, Inc., licensee of Station WNBQ, Chicago, Illinois, filed oppositions to the Indiana Technical College counterproposal. As noted above, Channel 5 in Fort Wayne would be 143 miles from Station WNBQ in Chicago and 139 miles from Station WLWT, in Cincinnati. The oppositions of Crosley and NBC are based on the interference which allegedly would be caused by the operation of a station in Fort Wayne on Channel 5.

Conclusions

439. The assignment of Channel 5 in Fort Wayne would not meet the minimum co-channel assignment separations for Zone I. While Indiana Technical College recognizes this deviation, it requests that operation be permitted with power limited to 14 kw. We have in another portion of this Report discussed low power operation and we have there concluded that the public interest would not be served by such operation where an assignment is made in violation of the minimum separation requirements. We find no reason to deviate from our rules with respect to the operation of low power stations. The Commission recognizes that it has made special rules with respect to power and time of operation for educational stations in other services. The engineering considerations that are involved in the establishment of low power stations in television make it impossible, however, to permit low power operation in the non-commercial educational television service. In light of the foregoing, the counterproposal of Indiana Technical College is denied. We believe, however, that the record supports the reservation of UHF Channel 27 in Fort Wayne as proposed in the Third Notice and the reservation of Channel 27 in Fort Wayne, is finalized.

Final Assignments

440. The following assignments are adopted:

City	UHF Channel No.
Fort Wayne, Indiana	21, *27, 33

BLOOMINGTON, INDIANA

441. (a) **Proposed Assignments and Reservation.** In the Third Notice the Commission proposed the following assignments and reservation to Bloomington, Indiana:

City	VHF Channel No.	UHF Channel No.
Bloomington, Ind.	4	*30, 36

[98] Wabash Valley Broadcasting Corporation filed a Motion to Strike paragraph 22 of the "Written Presentation in Lieu of Hearing" filed by WSAL and WVJS (Logansport Broadcasting Corporation and Owensboro On the Air, Inc.) on September 10, 1951 for the reason that the joint counterproposal of WSAL and WVJS filed on May 7, 1951 proposed the deletion of Channel 10 from Terre Haute, Indiana, and the substitution of Channel 34 therefor; that in paragraph 22 of the September 10, 1951 statement they admitted the impracticability of assigning Channel 34 to Terre Haute and abandoned that portion of their counterproposal; that in the same document of September 10, 1951, WSAL and WVJS proposed for the first time that Channel 41 or 51, or a flexibility channel, or one of the "unused channels in the area" be assigned to Terre Haute. WSAL and WVJS filed an opposition to the above-mentioned Motion to Strike admitting that such material objected to did not appear in prior presentations made by them but said that such material has been properly submitted as evidence by other parties to this proceeding (by William H. Block Co.; WIBC, Inc.; L. B. Wilson, Inc.) and therefore may be properly recited and relied upon by WSAL and WVJS. The Motion to Strike is GRANTED but the Commission has considered all the evidence which has been offered by other parties to this proceeding with respect to the possible assignment to Terre Haute.

WSAL and WVJS filed with the Commission a "Motion to Strike and For Other Relief and Opposition to Motion to Strike" and a "Reply to Brief of Wabash Valley Broadcasting Corporation." The Motion to Strike is directed against certain portions of the testimony in the sworn statements of Wabash Valley Broadcasting Corporation filed with the Commission on September 8, 1951 and October 8, 1951. The Opposition to Motion to Strike is directed against the Motion to Strike filed by Wabash Valley Broadcasting Corporation on October 22, 1951. On November 26, 1951 Wabash Valley Broadcasting Corporation filed with the Commission "A Motion to Strike Physically Documents Filed Late by Logansport Broadcasting Corporation and Owensboro On The Air." Wabash Valley Broadcasting Corporation moves to strike for the reason that the Commission's Order of Hearing Procedure provides that all pleadings and briefs affecting Groups N through R should be filed by October 22, 1951 and that the above-named parties filed their documents one week late.

The Motion to Strike is GRANTED in so far as it pertains to the "Reply to Brief of Wabash Valley Broadcasting Corporation" and "Motion to Strike" certain portions of the testimony of Wabash Valley Broadcasting Corporation, both filed on October 29, 1951, since these documents have been filed one week later than the deadline for their group. The Motion to Strike is DENIED in so far as it pertains to the "Opposition to Motion to Strike" filed by WSAL and WVJS on October 29, 1951 for the Motion to Strike was not filed until October 22, 1951, the deadline date for the group, and WSAL and WVJS must be allowed the opportunity to file an opposition to the motion to strike.

(b) **Existing Stations.** Sarkes Tarzian, Inc. has a construction permit for Station WTTV in Bloomington on Channel 10, is operating under special temporary authorization and has been directed to show cause why its authorization should not be modified to specify operation on Channel 4 in lieu of Channel 10.

(c) **Answer of Sarkes Tarzian, Inc., to Show Cause Order.** Sarkes Tarzian, Inc., stated that it had no objection to the Commission's proposal to move Station WTTV from Channel 10 to Channel 4.

(d) **Educational Reservation in Bloomington.** Indiana University supported the reservation of Channel 30 in Bloomington, stating that it hopes to make use of the reservation in cooperation with other educational institutions in the area. No oppositions to the reservation were filed.

Conclusions: Show Cause Order

442. An authorization will be issued to Sarkes Tarzian, Inc., to specify operation of Station WTTV on Channel 4 in lieu of Channel 10.

Conclusions: Educational Reservation

443. In view of the foregoing, the reservation of Channel 30 in Bloomington for non-commercial educational use is finalized.

Final Assignments and Reservation

444. The following assignments and reservation are adopted:

City	VHF Channel No.	UHF Channel No.
Bloomington, Ind.	4	*30, 36

EVANSVILLE, INDIANA

445. (a) **Proposed Assignments and Reservation.** In the Third Notice the Commission proposed the assignment of 4 channels to Evansville, Indiana: VHF Channel 7 and UHF Channels 50, 56 and 62, with Channel 56 reserved for non-commercial educational purposes.

(b) **Census Data.** The standard metropolitan area of Evansville has a population of 160,000 and the City of Evansville has a population of 129,000.

(c) **Statement in Support of Proposed Assignments.** South Central Broadcasting Corporation, Evansville, Indiana, and the Evansville Chamber of Commerce filed statements supporting the proposed assignments for Evansville.

(d) **Counterproposal of Evansville Chamber of Commerce.** In addition to supporting the proposed assignments for Evansville, the Evansville Chamber of Commerce requested that the Commission "keep Evansville in mind for another VHF or UHF channel should circumstances make such further allocation possible." It was suggested that Channel 29 should be assigned to that community.

(e) The assignment of Channel 29 to Evansville would not meet the required 75 mile spacing necessary to prevent picture image interference in light of the assignment of Channel 14 in Ownesboro, Kentucky, and Channel 44 in Vincennes, Indiana, both within 75 miles of Evansville.

(f) **Educational Reservation.** Evansville College supported the reservation of UHF Channel 56 in Evansville for non-commercial educational use. Incorporated in this statement were letters of support of the reservation by the Evansville Chamber of Commerce, Evansville Public Schools, and the Evansville Public Museum. Evansville College stated that there is interest among the educational institutions in the area in working cooperatively for the construction and use of an educational television station. The President of the College, stated that there is "every expectation that some time in the foreseeable future as adjustments are made, equipment becomes available in the UHF field, and the probable cost of equipment and production are reduced this community will wish to make television as part of the total educational facility which it uses."

(g) The South Central Broadcasting Corporation, Evansville, Indiana, supported the reservation of Channel 56 for non-commercial educational use provided the time of reservation is not unduly prolonged, and suggested that a time limitation of one year be placed on the reservation.

Conclusions: Additional Assignments

446. We believe that the record does not support the assignment of additional channels to Evansville. The assignment of Channel 29 proposed by the Evansville Chamber of Commerce would not meet the required 75-mile spacing necessary to prevent picture image interference. In light of the foregoing, the counterproposal of the Evansville Chamber of Commerce requesting the additional assignment of Channel 29 is denied.

Conclusions: Educational Reservation

447. We believe, on the basis of the record, that the reservation of Channel 56 for non-commercial educational use in Evansville should be finalized. We do not believe that a time limitation on the reservation of one year as suggested by the South Central Broadcasting Corporation is warranted. We see no reason for deviating in this instance from the rules adopted herein with respect to the amendments of the Table. In the light of the foregoing, the reservation of Channel 56 for non-commercial use in Evansville is finalized.

TERRE HAUTE, INDIANA: EDUCATIONAL RESERVATION

448. (a) **Proposed Reservation.** In the Third Notice the Commission proposed the reservation of Channel 57 for non-commercial educational use.

(b) Indiana State Teacher's College filed a statement supporting the reservation of Channel 57 in Terre Haute for non-commercial educational use. It was stated that local educational institutions including Indiana State Teachers College, Rose Polytechnic Institute, and St. Mary-of-the-Woods College, and the public schools of Terre Haute, were studying the legal and technical aspects of the establishment of an educational television station. No oppositions were filed to the proposed reservation.

Conclusions

449. In view of the foregoing the reservation of Channel 57 for non-commercial educational use in Terre Haute is finalized.

SOUTH BEND, INDIANA: EDUCATIONAL RESERVATION

450. (a) **Proposed Reservation.** In the Third Notice the Commission proposed the reservation of Channel 40 in South Bend for non-commercial educational use.

(b) The University of Notre Dame supported the reservation of Channel 40 for non-commercial educational use. The President of the University stated that it was studying the financial, programming, legal and engineering requirements necessary to establishing an educational television station. No oppositions to the proposed reservation were filed.

Conclusions

451. In view of the foregoing the reservation of Channel 40 for non-commercial educational use in South Bend is finalized.

MICHIGAN CITY, INDIANA

452. (a) **Proposed Assignments.** In the Third Notice the Commission proposed the assignment of one channel, UHF Channel 62 to Michigan City, Indiana.

(b) **Census Data.** Michigan City has a population of 28,000.

(c) **Statement in Support of Proposed Assignment.** William C. Higgins filed a statement supporting the proposed assignment of UHF Channel 62 for Michigan City. It was urged that this assignment would be in the public interest, convenience and necessity, and that such assignment is required by the priorities. No oppositions to the assignment of Channel 62 in Michigan City were filed.

Conclusions

453. In view of the foregoing, the assignment of Channel 62 in Michigan City is adopted.

MUNCIE, INDIANA

454. (a) **Proposed Assignments.** In the Third Notice the Commission proposed the assignment of 2 channels to Muncie, Indiana; UHF Channels 49 and 55.

(b) **Census Data.** The Muncie standard metropolitan area has a population of 90,000 and the City of Muncie has a population of 58,000.

(c) **Counterproposal of Ball State Teachers College.** Ball State Teachers College, Muncie, Indiana, requested that Channel 55 be designated as an educational reservation or that a channel in the 782-890 mc. band be assigned to Muncie to be reserved for non-commercial educational use. No oppositions were filed to the counterproposal.

(d) **Statement in Support of Ball State Teachers College Counterproposal.** Ball State Teachers College stated that it is the only state institution of higher learning in Indiana which would not have a television assignment reserved in its area for non-commercial educational use. The Director of Radio of the College noted that both radio and television courses are now being conducted in the school and that the television courses would be expanded when an educational television station commenced operation. Support for the counterproposal of Ball State Teachers College was also expressed by the Mayor of Muncie, the Principal of Burris School in Muncie, and the School City of Muncie.

Conclusions

455. In view of the foregoing the counterproposal of Ball State Teachers College insofar as it requested the assignment of a channel in Muncie to be reserved for non-commercial educational use is granted. Accordingly, Channel 71 is assigned to Muncie and is reserved for non-commercial educational use.

Final Assignments and Reservation

456. The following assignments and reservation are adopted:

City	UHF Channel No.
Muncie	49,55,*71

LAFAYETTE, INDIANA: EDUCATIONAL RESERVATION

457. (a) **Proposed Reservation.** In the Third Notice the Commission proposed the reservation of Channel 47 to Lafayette, Indiana, for non-commercial educational use.

(b) Purdue University, Lafayette, Indiana, supported the reservation of Channel 47 in Lafayette for non-commercial educational use. No oppositions to the proposed reservation in Lafayette were filed.

Conclusions

458. In view of the foregoing, the reservation of Channel 47 in Lafayette, Indiana, for non-commercial educational use is finalized.

GARY, INDIANA

459. (a) **Proposed Assignment.** In the Third Notice, the Commission proposed the assignment of one channel for Gary, Indiana, UHF Channel 50.

(b) **Census Data.** The population of Gary is 134,000. Gary lies within the Chicago metropolitan area.

(c) **Counterproposal of the Board of School Trustees of the School City of Gary.** The Board of School Trustees of the School City of Gary requested in the alternative (1) that Channel 50 proposed for Gary in the Third Notice be reserved for non-commercial educational use; or (2) that Channel 44 be deleted from Chicago, assigned to Gary, and reserved for non-commercial educational use; or (3) that a channel in the 782-890 Mc. band be assigned to Gary and reserved for non-commercial educational use.

(d) **Statement in Support of Board of School Trustees Counterproposal.** The Board of School Trustees urged, that adequate coverage for the Gary area from an educational television station in Chicago would not be achieved, and that the Audio-Visual Educational Department of the Gary Public Schools was in a position to aid educational television. The Superintendent of Schools stated that the Board was "aware of the cost of establishing a television broadcasting station and of the cost of the operation of such a station" and represented that the Board would do its best "to finance this area in an adequate manner."

(e) **Opposition to the Board of School Trustees Counterproposal.** Johnson-Kennedy Radio Corporation filed an opposition to the Board of School Trustees counterproposal only insofar as it requested the deletion of Channel 44 from Chicago.

(f) **Counterproposal of the Lake Broadcasting Company.** Lake Broadcasting Company, Gary, Indiana, filed a counterproposal requesting that VHF Channel 11 be deleted from Chicago, where it is reserved for non-commercial educational use, and be assigned to Gary, with the reservation in

Chicago shifted to UHF Channel 20, as follows:

City	Third Notice		Counterproposal	
	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.
Chicago, Illinois	2,5,7,9,*11	20,26,32, 38,44	2,5,7,9, †	*20,26,32, 38,44
Gary, Indiana		50	11†	50†

(g) **Statement in Support of Lake Broadcasting Company Counterproposal.** The Lake Broadcasting Company urged that Gary was entitled to an additional assignment in accordance with priorities 3 and 4 and in light of the mandate of Section 307(b) requiring an equal distribution of frequencies between states and cities. It was further contended that educational television in Chicago would not be adversely affected by shifting the reservation for non-commercial educational use to a UHF channel.

(h) **Opposition to the Lake Broadcasting Company Counterproposal.** The Johnson-Kennedy Radio Corporation, Chicago, Illinois, filed an opposition to the counterproposal of the Lake Broadcasting Company contending that the shifting of Channel 11 from Chicago to Gary would substantially reduce the number of persons that would receive service from this assignment. While the Johnson-Kennedy Radio Corporation neither supported nor opposed the reservation of Channel 11 in Chicago for non-commercial educational use, it was urged that Channel 11 should not be deleted from that community. The Lake Broadcasting Company counterproposal also conflicts with the support of the JCET and educational institutions for the reservation of Channel 11 in Chicago.

Conclusions: Assignment of VHF Channel 11 to Gary

460. We do not believe that a VHF channel should be deleted from Chicago to provide a VHF channel for Gary. Chicago has a metropolitan area population of 5,495,000 and a city population of 3,621,000. Gary is in the metropolitan area of Chicago and is located 24 miles from the City of Chicago. Gary will receive Grade A service from the operation of VHF stations in Chicago. We do not believe that the deletion of a VHF assignment from one of the major cities of the United States is warranted where the smaller city is located within the metropolitan area of the major city and will receive Grade A VHF service from stations located in the larger city. It is our view that the deletion of a VHF assignment from a city as large and as important as Chicago to create one for Gary is not warranted. The counterproposal of Lake Broadcasting Company is therefore denied.[*]

Conclusions: Educational Reservation in Gary

461. We are of the view that the record supports the reservation of a channel at Gary for non-commercial educational use. However, we do not believe such a reservation is warranted at the expense of the only commercial assignment in Gary or of the deletion of a UHF channel from Chicago. Accordingly, Channel 66 is assigned to Gary and reserved for non-commercial educational use.

Final Assignment and Reservation

462. In view of the foregoing, the following assignments and reservation for Gary are adopted:

City	UHF Channel No.
Gary, Indiana	50,*66

LOUISVILLE, KENTUCKY

463. (a) **Proposed Assignments and Reservation.** In the Third Notice the Commission proposed the assignment of four channels to Louisville, Kentucky: VHF Channels 3 and 11 and UHF Channels 15 and 21, with Channel 15 reserved for non-commercial educational use.

(b) **Census Data.** The Louisville standard metropolitan area has a population of 577,000. The City of Louisville has a population of 369,000.

(c) **Existing Stations.** WAVE, Inc., is licensed for the operation of Station WAVE-TV on Channel 5, and WHAS, Inc., is licensed for the operation of Station WHAS-TV on Channel 9. The above licensees have been directed to show cause in this proceeding why the licenses of WAVE-TV and WHAS-TV should not be modified to specify operation on Channels 3 and 11, respectively, in lieu of Channels 5 and 9.

(d) **Answers to Orders to Show Cause.** WHAS, Inc., stated that it agreed to the proposed modifications of its license to specify operation of WHAS-TV on Channel 11 in lieu of Channel 9. WHAS, Inc., pointed out that the assignment of Channel 11 in Louisville would be 227 miles from the co-channel assignment at Johnson City, Tennessee, and 241 miles from the co-channel assignment at St. Louis, Missouri, the closest co-channel assignments, and that accordingly, the assignment of Channel 11 in Louisville would meet the minimum separation requirement. WAVE, Inc., has not filed an objection to the proposed modification of its license to specify operation on Channel 3 in lieu of Channel 5.

(e) **Counterproposals of Mid-America Broadcasting Corporation and Radio Kentucky, Inc.** Mid-America Broadcasting Corporation, Louisville, Kentucky, filed a counterproposal requesting the additional assignment of UHF Channel 41 to Louisville "as well as all other additional channels which can be allocated." Radio Kentucky, Inc. filed a counterproposal requesting the additional assignment of UHF Channel 51 to Louisville.[**] The counterproposals would make the following changes:

City	Third Notice		Proposed Changes	
	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.
Louisville, Kentucky	3,11	*15,21	3,11	15,21,41†,51†

(f) **Statements in Support of Counterproposals of Mid-America Broadcasting Corporation and Radio Kentucky, Inc.** It was urged by Mid-America Broadcasting Corporation that Louisville, which ranks 25th among the nation's metropolitan areas, has fewer proposed assignments than many lesser metropolitan areas. It was pointed out, for example, that the Commission in the Third Notice proposed the assignment of 5 channels to Denver, the 26th ranking metropolitan area, and 5 channels to Indianapolis, the 28th metropolitan area. It was further urged that the assignment of Channel 41 in Louisville would not require the deletion of channels from any other community and would meet the required assignment separations. Radio Kentucky, Inc. contended, in support of its request, that UHF Channel 51 can be assigned to Louisville without affecting any other assignments and would meet the minimum assignment separations. No oppositions were filed to the counterproposals of Mid-America Broadcasting Corporation or Radio Kentucky, Inc.

(g) **Educational Reservation in Louisville.** The Louisville Free Public Library, the Board of Education of Louisville, the Lutheran Baptist Theological Seminary, and Nazareth College supported the reservation of Channel 15 for non-commercial educational use in Louisville. Radio Kentucky, Inc. opposed the reservation of Channel 15 in Louisville contending that educational institutions would be adequately served by commercial stations; that educational institutions would secure a maximum audience through the utilization of commercial television; that educational institutions would best be served by participating in the regular programming of commercial stations; and that educational institutions in Louisville lacked the necessary finances to establish a non-commercial educational television station. In reply, the Louisville Public Library and the Board of Education of Louisville argued that television could become a real tool of instruction only if the stations are owned and controlled by the educational institutions. It was also urged that since commercial interests could move more rapidly than educational institutions in making plans and securing necessary funds, the reservation of channels for non-commercial educational use are necessary.

Conclusions: Additional UHF Assignments

464. We are of the view that the record supports the assignment of additional UHF assignments to Louisville. Since Channels 41 and 51 can be assigned without affecting any other assignments and in conformity with minimum separation requirements these channels are assigned to Louisville.

Conclusions: Educational Reservation

465. We believe that the record supports the reservation of UHF Channel 15 for non-commercial educational use in Louisville. Accordingly, we are finalizing the reservation of UHF Channel 15 in Louisville for non-commercial educational use.

Conclusions: Show Cause Orders

466. Appropriate authorizations will be issued to WAVE, Inc., and WHAS, Inc., to specify operation of WAVE-TV and WHAS-TV on Channels 3 and 11, respectively.

Final Assignments and Reservation

467. The following assignments and reservation are adopted:

City	VHF Channel No.	UHF Channel No.
Louisville	3,11	*15,21,41,51

COLDWATER, MICHIGAN

468. (a) **Proposed Assignments.** In the Third Notice the Commission proposed no assignments for Coldwater, Michigan.

(b) **Census Data.** Coldwater has a population of 9,000.

(c) **Counterproposal of Twin Valley Broadcasters, Inc.** A counterproposal has been filed by Twin Valley Broadcasters, Inc., Coldwater, Michigan, requesting the assignment of VHF Channel 10 to Coldwater, or that a UHF channel be assigned to that community in the event that a VHF channel is not assigned. No other changes in channel assignments were suggested to accomplish this counterproposal.

(d) **Statement in Support of Twin Valley Broadcasters, Inc. Counterproposal.** Twin Valley Broadcasters, Inc., submitted that under the assignments proposed in the Third Notice, Coldwater would receive only fringe area reception. It was pointed out that Coldwater presently supports an AM and FM station, and it was urged that a television channel, either VHF or UHF, should be assigned to this community. Channel 10 at Coldwater would be 168 miles from the co-channel assignment at Milwaukee, Wisconsin, and 172 miles from the co-channel assignment at Columbus, Ohio.

(e) **Conflicting Counterproposals and Oppositions to the Twin Valley Broadcasters, Inc. Counterproposal.** The counterproposal of Twin Valley Broadcasters, Inc. insofar as it requests the assignment of Channel 10 in Coldwater is mutually exclusive with the counterproposals of the following other parties: The Trebit Corporation, Flint, Michigan; Michigan State College, East Lansing, Michigan; Logansport Broadcasting Corp., Logansport, Indiana; and Owensboro On The Air, Inc., Owensboro, Kentucky; WJR, The Goodwill Station, Inc., Detroit, Michigan; William H. Block Company, Indianapolis, Indiana; L. B. Wilson, Inc., Cincinnati, Ohio; and Quad City Broadcasting Corp., Moline, Illinois. In addition, oppositions were filed by the following parties: Michigan State College; Dispatch Printing Company, Inc., Columbus, Ohio; The Trebit Corporation; WJR, The Goodwill Station, Inc., and Logansport Broadcasting Corp.; and Owensboro On The Air, Inc.

Conclusions

469. We are of the view that the record supports the assignment of a television channel in Coldwater, Michigan. However, the assignment of VHF Channel 10 in that community would result in a deviation from the 170 mile minimum assignment separation for co-channel stations in this zone. The Twin Valley Broadcasters, Inc. counterproposal is therefore denied insofar as it requests the assignment of VHF Channel 10 to Coldwater. However, UHF Channel 51 which meets the required mileage separations will be assigned to Coldwater.

Final Assignment

470. The following assignment is adopted:

City	VHF Channel No.	UHF Channel No.
Coldwater, Michigan	..	24

[*]See our decision in Boston and Brockton.

[**]Radio Kentucky, Inc., also opposed the reservation of Channel 15 in Louisville for non-commercial educational use.

FLINT, MICHIGAN

471. (a) **Proposed Assignments and Reservation.** In the Third Notice the Commission proposed the assignment of four channels to Flint, Michigan: VHF Channel 12 and UHF Channels 16, 22 and 28, with Channel 22 reserved for non-commercial educational use.

(b) **Census Data.** The Flint standard metropolitan area has a population of 271,000 and the City of Flint has a population of 163,000.

(c) **Educational Reservation in Flint.** The JCET and School District of Flint filed statements supporting the reservation of UHF Channel 22 in Flint for non-commercial educational use. The School District stated that funds were available and that it was prepared to proceed with its plans for the construction of a station if the reservation of a channel in Flint is finalized. No oppositions to the reservation of Channel 22 in Flint were filed.

(d) **Counterproposal of the Trebit Corporation.** The Trebit Corporation, Flint, Michigan, filed a counterproposal requesting the assignment of VHF Channel 10 in Flint to be accomplished by deleting Channel 10 from London, Ontario, in Canada, and by substituting UHF Channels 43 and 65 in London, as follows:

City	Third Notice		Proposed Changes	
	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.
Flint, Michigan	12	16,*22,28	10,+12	16,*22,28
London, Ontario	10	18	+	18,43+,65+

(e) **Statement in Support of The Trebit Corporation Counterproposal.** The Trebit Corporation urged that an additional VHF Channel was required to provide adequate service to Flint, and that UHF service in that area would be difficult to establish. It was urged that, on the other hand, UHF would be adequate to provide service for the London, Ontario area, and that non-intermixture of VHF and UHF would be to the best interest of that community. The assignment of Channel 10 at Flint would be 61 miles from the adjacent channel assignment of Channel 9 at Windsor, Ontario. Channel 43 proposed by the Trebit Corporation for London would be 163 miles from the co-channel assignment at Butler, Pennsylvania.

(f) **Conflicting Counterproposals and Oppositions to The Trebit Corporation Counterproposal.** The Trebit Corporation counterproposal conflicts with the following other counterproposals: WJR, The Goodwill Station, Inc., Detroit, Michigan; Michigan State College, East Lansing, Michigan; and Booth Radio and Television Stations, Inc., Detroit, Michigan. Oppositions to The Trebit Corporation counterproposal were filed by Michigan State College and WJR, The Goodwill Station, Inc.

Conclusions: The Educational Reservation

472. In view of the foregoing, the reservation of UHF Channel 22 in Flint, Michigan for non-commercial educational use is finalized.

Conclusions: Request for Additional VHF Channel

473. The Trebit Corporation would assign VHF Channel 10 to Flint by deleting this assignment from London, Ontario and substituting therefore UHF Channels 43 and 65: Channel 10 at Flint would be 61 miles from the adjacent channel assignment of Channel 9 at Windsor, Ontario, and Channel 43 at London would be 163 miles from the co-channel assignment at Butler, Pennsylvania. The counterproposal of The Trebit Corporation is denied for the reasons set forth above in the discussion of the Canadian-United States assignments.

Final Assignments and Reservation

474. The final assignments and reservation are adopted:

City	VHF Channel No.	UHF Channel No.
Flint, Michigan	12	16,*22,28

LANSING AND EAST LANSING, MICHIGAN

475. (a) **Proposed Assignments.** In the Third Notice the Commission proposed the assignments of two channels to Lansing, Michigan: VHF Channel 6 and UHF Channel 54. One channel was proposed for East Lansing, Michigan, UHF Channel 60.

(b) **Census Data.** The Lansing standard metropolitan area has a population of 173,000 and the city has a population of 92,000. East Lansing, which lies within 15 miles of Lansing, has a population of 20,000.

(c) **Existing Station.** One station is presently operating in Lansing. WJIM, Inc. is licensed for the operation of Station WJIM-TV.

(d) **Counterproposal of Michigan State College.** A counterproposal has been filed by Michigan State College requesting the assignment of VHF Channel 10 to East Lansing. No other changes in the assignments proposed in the Third Notice were requested.[100]

(e) **Statement in Support of Michigan State Counterproposal.** The assignment of Channel 10 at East Lansing would be 164 miles from the assignment of this channel in London, Ontario, in Canada. However, in support of its counterproposal, Michigan State College urged that the operation of Channel 10 at East Lansing would cause no objectionable interference within the Grade A or B service areas of any co-channel stations since it contemplated that maximum effective radiated powers of 110 kw at 500 feet above average terrain would be employed.

(f) **Conflicting Counterproposals and Oppositions to the Michigan State Counterproposal.** The Michigan State College counterproposal conflicts with the counterproposals of the following parties: Logansport Broadcasting Corp., Logansport, Indiana; and Owensboro On The Air, Inc., Owensboro, Kentucky: Twin Valley Broadcasters, Inc., Coldwater, Michigan; The Trebit Corporation, Flint, Michigan; WJR, The Goodwill Station, Inc., Detroit, Michigan; and Quad-City Broadcasting Corp., Moline, Illinois.

[100] On May 7, 1951, Michigan State College filed a comment in this proceeding urging the assignment of VHF Channel 10 to East Lansing, Michigan, for non-commercial educational purposes. However, on September 6, 1951, Michigan State petitioned the Commission for leave to amend its prior proposal to request that Channel 10 be assigned to East Lansing as a commercial channel. This petition was granted by the Commission on September 12, 1951.

Conclusions

476. The counterproposal of Michigan State College would result in a co-channel spacing of only 164 miles between East Lansing and London, Ontario. Michigan State recognizes that this separation is in violation of the minimum mileage separation requirements. It requests, however, that an assignment be permitted at reduced power. We have considered the question whether low power assignments should be permitted in cases such as this. We see no reason to deviate in this instance from our decision that such assignments will not be permitted. We must therefore deny the Michigan State counterproposal. Moreover, the Michigan State proposal must also be rejected for reasons set forth above in the discussion of Canadian-United States assignments.

Final Assignments

477. In view of the foregoing, the following assignments are adopted:

City	VHF Channel No.	UHF Channel No.
Lansing, Mich.	6	54
East Lansing, Mich.		60

DETROIT, MICHIGAN

478. (a) **Proposed Assignments and Reservation.** In the Third Notice the Commission proposed the assignment of six channels to Detroit, Michigan: VHF Channels 2, 4. and 7 and UHF Channels 50, 56, and 62, with Channel 56 reserved for non-commercial educational use.

(b) **Census Data.** The Detroit standard metropolitan area has a population of 3,016,000 and the City of Detroit has a population of 1,850,000.

(c) **Existing Stations.** Three stations are presently in operation in Detroit. Fort Industry Company is licensed for the operation of Station WJBK-TV on Channel 2; Evening News Association is licensed for the operation of Station WWJ-TV on Channel 4; and WXYZ, Inc., is licensed for the operation of Station WXYZ-TV on Channel 7.

(d) **Counterproposal of the Board of Education of the City of Detroit.** The Board of Education of the City of Detroit filed a counterproposal requesting the assignment of VHF Channel 11 to Detroit to be reserved for non-commercial educational use. Wayne University, Detroit, Michigan, joined in this counterproposal. This would be accomplished by deleting VHF Channel 11 from Toledo, Ohio, and shifting VHF Channel 12 from Flint, Michigan, to Bay City-Saginaw, Michigan, as follows:[101]

City	Third Notice		Proposed Changes	
	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.
Detroit, Michigan	2,4,7	50,*56,62	2,4,7,*11+	50,56,62
Toledo, Ohio	11,13	*30	+,13	*30
Flint, Michigan	12	16,*22,28	+	16,*22,28
Bay City, Michigan		63		63
Saginaw, Michigan		51,57		51,57
Bay City-Saginaw, Michigan			12+	

(e) **Statement in Support of Board of Education Counterproposal.** The Board of Education of the City of Detroit pointed out that three television stations were presently in operation in Detroit, and that none of the half million sets in use in the Detroit area can receive UHF transmissions. It was urged that since most network programs are generally available to Detroit viewers, it is unlikely that the existing receivers will be converted to receive UHF, and that consequently, any UHF audience in the Detroit area will be a limited one. The Board contended that since only one station is presently in operation in Toledo, existing VHF sets would be converted at a faster rate in comparison with Detroit. It was noted that the Detroit metropolitan area had a population of 2,973,000 as compared to 393,000 for the Toledo metropolitan area. With respect to the removal of Channel 12 from Flint to Bay City-Saginaw it was submitted that such assignment would afford a first VHF channel to the Bay City-Saginaw area, with a population of 241,000. The population of the Flint metropolitan area was listed as 270,000. Mercy College, Detroit, Michigan, and the JCET supported the Board of Education's counterproposal. No substitutions are suggested for Toledo or Flint to replace the VHF channels to be deleted.

(f) As noted above, in the Third Notice, UHF Channel 56 was reserved in Detroit for non-commercial educational use. The Board of Education of the City of Detroit stated that if its request for VHF Channel 11 in Detroit is denied, it desired that Channel 56 be reserved in Detroit for non-commercial educational use. No oppositions to the reservations of UHF Channel 56 were filed.

(g) **Oppositions to the Board of Education Counterproposal.** The following parties filed oppositions to the counterproposal of the Board of Education of the City of Detroit: Adrian Broadcasting Company in opposition to the proposal to shift Channel 11 from Toledo to Detroit and Channel 12 from Flint to Bay City-Saginaw; Booth Radio and Television Stations, Inc., in opposition to the proposal to shift Channel 12 from Flint to Bay City-Saginaw; Crosley Broadcasting Corporation, in opposition to the proposal to shift Channel 11 from Toledo to Detroit; Community Broadcasting Company, in opposition to the proposal to shift Channel 11 from Toledo to Detroit; Maumee Valley Broadcasting Company, in opposition to the proposal to shift Channel 11 from Toledo to Detroit and Channel 12 from Flint to Bay City-Saginaw; and The Trebit Corporation, in opposition to the proposal to shift Channel 11 from Toledo to Detroit and Channel 12 from Flint to Bay City-Saginaw.

(h) **Counterproposal of Booth Radio and Television Stations, Inc.** Booth Radio and Television Stations, Inc., requested the additional assignments of VHF Channels 6 and 9 to Detroit. Channel 9 would be assigned to Detroit by substituting UHF Channel 50 in Windsor, Ontario, for VHF Channel 9. Channel 6 would be assigned to Detroit by substituting Channel 5 in Lansing, Michigan, for Channel 6;

[101] The Bay City Public Schools filed a counterproposal requesting the assignment of VHF Channel 12 to Bay City-Saginaw to be reserved for non-commercial educational use.

substituting Channel 11 in Alpena, Michigan, for Channel 9; substituting Channel 8 in Iron Mountain, Michigan, for Channel 9, and substituting Channel 9 in Traverse City, Michigan, for Channel 5. Station WJIM-TV is presently operating on Channel 6 in Lansing, Michigan. The Booth Radio and Television Stations, Inc., counterproposal would make the following changes in the assignments proposed in the Third Notice:

City	Third Notice		Proposed Changes	
	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.
Detroit, Mich.	2,4,7	50,*56,62	2,4,6†,7,9†	†,*56,62
Windsor, Ontario	9	32,38	†	32,38,50†
Lansing, Mich.	6	54	5†	54
Iron Mountain, Mich.	9	27	8†	27
Alpena, Mich.	9	30	11†	30
Traverse City, Mich.	5	20,*26	9†	20,*26

(i) **Statement in Support of Booth Radio and Television Stations, Inc.** Booth Radio and Television Stations, Inc., urged that the assignment of VHF Channels 6 and 9 to Detroit would afford Grade A and B service to a substantial population and area. It was contended that such assignments are needed since Detroit is the fastest growing metropolitan area among the five largest cities in the nation; and that additional television facilities are required for the large foreign speaking population in the Detroit area.

(j) Channel 6 at Detroit would be 163 miles from the co-channel assignment at Columbus, Ohio. Channel 5 at Lansing, as proposed by Booth, would place Station WJIM-TV 170 miles from existing Station WNBQ operating on Channel 5 in Chicago.

(k) **Conflicting Counterproposal and Oppositions to the Booth Radio and Television Stations, Inc. Counterproposal.** Oppositions to the Booth counterproposal have been filed by Picture Waves, Inc., Columbus, Ohio; WJIM, Inc., Lansing, Michigan; Indiana Technical College, Fort Wayne, Indiana; National Broadcasting Company, Inc., Chicago, Illinois;[102] and Trebit Corporation, Flint, Michigan. The Booth counterproposal is also mutually exclusive with the counterproposal of Music Broadcasting Company, Grand Rapids, Michigan, and Bay Broadcasting Company, Bay City, Michigan.

(l) **Counterproposal of WJR, The Goodwill Station, Inc.** A counterproposal has been filed by The Goodwill Station, Inc., requesting the additional assignments of VHF Channel 6 and UHF Channel 22 to Detroit. In order to assign Channel 6 to Detroit, Channel 10 would be substituted in Lansing, Michigan, for Channel 6. WJIM-TV is presently operating in Lansing on Channel 6. In order to assign Channel 22 to Detroit, Channel 18 would be substituted in East Lansing, Michigan for Channel 60, Channel 46 substituted in Flint, Michigan, for Channel 22, Channel 60 substituted in Ludington, Michigan, for Channel 18, and Channel 37 substituted in Cadillac, Michigan for Channel 45. The WJR counterproposal would make the following changes in the assignments proposed in the Third Notice:

City	Third Notice		Proposed Changes	
	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.
Detroit, Mich.	2,4,7	50,*56,62	2,4,6†,7	22†,50,*56,62
Lansing, Mich	6	54	10†	54
East Lansing, Mich.		60		18†
Flint, Mich.	12	16,*22,28	12	16,28,*46†
Lubington, Mich.		18		60†
Cadillac, Mich.		45		37†

(m) **Statement in Support of WJR, The Goodwill Station, Inc. Counterproposal.** WJR, The Goodwill Station, Inc., urged that the Commission's proposal assigning three VHF channels and three UHF channels to Detroit, the fifth largest metropolitan area in the United States, violates Section 307(b) of the Communications Act. It was contended that Detroit would receive no more channels than would be received by metropolitan areas which are smaller than Detroit; and that in some instances, Detroit would receive fewer channels than several smaller metropolitan areas. It was also urged that the Commission's assignments in Detroit are unlawful since under the currently effective assignment Table, 4 VHF channels are assigned to Detroit, and the Commission's proposal in the Third Notice assigning only 3 VHF channels was made after a consolidated hearing on the competing applications of WJR and the United Detroit Theatres Corporation for the one remaining unassigned VHF channel in Detroit.

(n) Channel 18 at East Lansing, as proposed by WJR, The Goodwill Station, Inc., would be 164 miles from the co-channel assignment at London, Ontario. In addition, Channel 46 in Flint, as suggested by WJR, would be 61 miles from the assignment of Channel 32 at Windsor, Ontario, Canada. Channel 6 at Detroit, as proposed by WJR, would be 163 miles from the co-channel assignment at Columbus, Ohio, Channel 10 at Lansing, as proposed by WJR would be 169 miles from the co-channel assignment at London, Ontario, and 171 miles from the co-channel assignment at Milwaukee, Wisconsin.[102]

(o) **Conflicting Counterproposals and Oppositions to the Counterproposal of WJR, The Goodwill Station, Inc.** Oppositions and conflicting proposals were filed by the following parties: Music Broadcasting Company, Grand Rapids, Michigan; Michigan State College, East Lansing, Michigan; The Trebit Corporation, Flint, Michigan; WJIM, Inc., Lansing, Michigan; Picture Waves, Inc., Columbus, Ohio; Quad-City Broadcasting Company, Moline, Illinois; Logansport Broadcasting Corp., Logansport, Indiana, and Owensboro On The Air, Inc., Owensboro, Kentucky; Twin Valley Broadcasting Company, Coldwater, Michigan; and Saginaw Broadcasting Co., Saginaw, Michigan.

Conclusions: The Educational Reservation in Detroit

479. The Board of Education of the City of Detroit has requested the assignment of VHF Channel 11 to be reserved in Detroit for non-commercial educational use. However, in order to accomplish this assignment, VHF Channel 11 must be deleted from Toledo, and VHF Channel 12 shifted from Flint to Bay City-Saginaw. We do not believe that these proposed changes are warranted in order to provide a fourth VHF channel to Detroit. Toledo is a metropolitan area with a population of 396,000 and has a city population of 304,000. Flint has a metropolitan area population of 271,000 and a city population of 163,000. Under the Third Notice two VHF and one UHF channels were proposed for Toledo, with the UHF channel reserved for non-commercial educational use, and one VHF and three UHF channels for Flint, with one of the UHF channels reserved for non-commercial educational use. The Board of Education counterproposal would, deprive Flint of its only VHF channel and would leave Toledo with only one VHF assignment. In view of the foregoing, the counterproposal of the Board of Education of the City of Detroit is denied. However, the reservation of UHF Channel 56 to Detroit for non-commercial educational use is finalized.

Conclusions: Additional Assignment of UHF Channel 22

480. In order to assign UHF Channel 22 to Detroit, WJR, The Goodwill Station, Inc., suggested, among other changes, that UHF Channel 18 be assigned to East Lansing at a distance of 164 miles from the co-channel assignment at London, Ontario. In addition, Channel 46 at Flint would be 60 miles from the assignment of Channel 32 at Windsor, Ontario. The request to assign Channel 22 to Detroit must be denied for the reasons set forth above in the discussion of United States-Canadian assignments.

Conclusions: Additional VHF Assignments

481. Booth Radio and Television Stations, Inc., requested the assignment of VHF Channel 9 to Detroit to be accomplished by shifting this channel from Windsor, Ontario, and substituting a UHF channel in the Canadian city. The Booth request for Channel 9 must be denied for the reasons set forth above in the discussion of United States-Canadian assignments.

482. With respect to VHF Channel 6, this channel at Detroit would be only 163 miles from the co-channel assignment at Columbus, Ohio, where Station WTVN is operating. The assignment of Channel 6 to Detroit would therefore be in violation of the minimum separation requirements adopted herein and for this reason the WJR request must be denied. In addition, the assignment of Channel 10 at Lansing as suggested by WJR, The Goodwill Station, Inc., in order to assign Channel 6 to Detroit, would be 171 miles from the co-channel assignment at London, Ontario. The WJR request must be denied for the reasons stated in the discussion of United States-Canadian assignments. Booth Radio and Television Stations, Inc., counterproposal conflicts with the counterproposal of Bay Broadcasting Company which requested the assignment of Channel 5 to Bay City, Michigan, since Channel 5 can not be employed in both Lansing and Bay City. We believe that the Bay Broadcasting Company counterproposal which would assign a first VHF channel to Bay City, a city with a population of 53,000 is more meritorious than a counterproposal seeking a fourth VHF channel for Detroit. In view of the foregoing, the counter-proposals of Booth Radio and Television Stations, Inc., and WJR, The Goodwill Station, Inc., requesting the assignment of VHF Channels 6 and 9 to Detroit are denied.

483. The television assignments adopted in 1945 assigned four VHF channels to Detroit, and three of these channels are presently in use. A comparative hearing was held for the remaining unassigned channel. We cannot agree that the denial of the above counterpropos-

[102] Booth Radio and Television Stations, Inc., filed a Motion to Strike testimony filed on behalf of National Broadcasting Company, Inc. In its sworn statement opposing the Booth counterproposal filed with the Commission on September 19, 1951, NBC had noted that its Station WNBQ is licensed to operate on Channel 5 in Chicago. NBC stated that it, therefore, opposed the Booth counterproposal which would require moving WJIM-TV in Lansing, Michigan, from its present operation on Channel 6 to Channel 5. NBC urged that the operation of Channel 5 in Lansing would cause interference to Channel 5 in Chicago, and that such counterproposal violates the minimum co-channel assignment spacings.

Booth moved to strike this opposition, contending that NBC did not file an opposition to the May 7, 1951, Comment of Booth advancing the counterproposal and that, therefore, under the terms of the Order of Hearing Procedure, issued in this proceeding, NBC is precluded from now offering such an opposition. In the alternative, Booth has filed a rebuttal to the NBC statement.

On October 22, 1951, NBC filed an opposition to the Motion to Strike of Booth, noting that NBC had filed Comments on May 7, 1951, supporting the Commission's proposed assignments listed in the Third Notice. Further, NBC argued that since this was in conflict with the counter-proposal of Booth, it was not necessary to file an opposition to insure the right to cross-examine Booth.

Paragraph 6 of the Order of Hearing Procedure, issued on July 25, 1951, in this proceeding states that . . . "parties whose comment filed in these proceedings on May 7, 1951, were by their terms in conflict with other comments, will be entitled to file sworn statements or exhibits in accordance with subparagraph 5c above, even though specific oppositions directed to such other comments have not been filed."

In view of the foregoing, the Motion to Strike is DENIED. However, the rebuttal of Booth is accepted and has been considered by the Commission in the proceeding.

[103] On February 27, 1952, WJR, The Goodwill Station, Inc., filed a petition for leave to file a late supplemental sworn statement "for the purpose of submitting newly discovered evidence." It was noted that in its comments and prior sworn statement filed in this proceeding, WJR had contended that a transmitter site could be found in Detroit that would provide a 170-mile transmitter - to - transmitter separation between Detroit and Columbus, Ohio, so as to permit the operation of Channel 6 in both cities. In its petition WJR asserts that it "has only recently located [such] a site," and therefore requests leave to file a supplemental statement concerning the details of this site. Oppositions to the WJR petition have been filed by the Twin Valley Broadcasters, Inc., Coldwater, Michigan; Picture Waves, Inc., Columbus, Ohio; Michigan State College, East Lansing, Michigan; Bay Broadcasting Company, Bay City, Michigan; Saginaw Broadcasting Company, Saginaw, Michigan, and WJIM, Inc., Lansing, Michigan. The time for filing sworn statements by WJR, as specified in the Order of Hearing Procedure issued in this proceeding, has expired. Furthermore, we are of the view that evidence concerning specific transmitter sites is irrelevant and immaterial in this proceeding for the purposes offered by WJR. Accordingly, the petition of WJR, The Goodwill Station, Inc., is DENIED.

[104] On

als seeking additional VHF channels for Detroit is contrary to law as urged by WJR, The Goodwill Station, Inc., because the reduction in the number of VHF assignments in Detroit from four to three was made after this comparative hearing was commenced.

We believe the opinion of the Commission, FCC 51-1216, issued on December 12, 1951 in connection with the requests for oral hearing of Daily News Television Co., et al makes clear that the Commission, in a proceeding such as this, may change the assignment of VHF channels to Detroit under the circumstances presented.

484. The following assignments and reservation are adopted:

City	VHF Channel No.	UHF Channel No.
Detroit	2,4,7	50,*56,62

GRAND RAPIDS, MICHIGAN

485. (a) **Proposed Assignments.** In the Third Notice the Commission proposed the assignment of three channels to Grand Rapids, Michigan: VHF Channel 8 and UHF Channels 17 and 23, with Channel 17 reserved for non-commercial educational use.

(b) **Census Data.** The Grand Rapids standard metropolitan area has a population of 288,000 and the City of Grand Rapids has a population of 177,000.

(c) **Existing Station.** Grandwood Broadcasting Company is licensed to operate Station WOOD-TV in Grand Rapids on Channel 7.[104] The licensee has been directed to show cause why the license of the existing station in Grand Rapids should not be modified to specify operation on Channel 8 in lieu of Channel 7.

(d) **Answer to Order to Show Cause.** No opposition to the proposed modification of the license of Station WOOD-TV to specify operation on Channel 8 in lieu of Channel 7 has been filed.

(e) **Educational Reservation in Grand Rapids.** The Board of Education of the Grand Rapids Public Schools filed a statement supporting the reservation of UHF Channel 17 in Grand Rapids for non-commercial educational use. The Board of Education stated that while it had no actual experience in educational television, it was prepared to undertake the establishment of an educational television station in Grand Rapids as soon as television service in the UHF is available. No oppositions to the reservation were filed.

(f) **Counterproposal of Music Broadcasting Company.** Music Broadcasting Company, Grand Rapids, Michigan, requested the additional assignment of VHF Channel 6 in Grand Rapids. In order to accomplish this assignment, the following changes would be made:

City	Third Notice VHF Channel No.	Third Notice UHF Channel No.	Proposed Changes VHF Channel No.	Proposed Changes UHF Channel No.
Grand Rapids, Mich.	8	*17,23	6†,8	*17,23
Lansing, Mich.	6	54	5†	54
Traverse City, Mich.	5	20,*26	7†	20,*26
Green Bay, Wis.	6		2†	
Clintonville, Shawano, New London, or Waupaca, Wis.			6†	

Station WJIM-TV is presently operating in Lansing, Michigan, on Channel 6, and the Music Broadcasting Company counterproposal would require the shifting of this station to Channel 5.

(g) **Statement in Support of Music Broadcasting Company Counterproposal.** Music Broadcasting Company urged that the assignments proposed for Grand Rapids are inadequate to meet the needs of that community. Music Broadcasting Company pointed out that Grand Rapids is the second largest city in Michigan and contended that the importance of that city is evidenced by schools, churches, manufacturing plants, amount of retail sales, the number of wholesale establishments and banking institutions, etc., and that such data supports the need for an additional VHF assignment in that community. It was further urged that there is need for the immediate establishment of additional television facilities in Grand Rapids for the reason that there are at the present time 114,557 television receivers in the Grand Rapids-Kalamazoo area despite the fact that there is only one local station in that area. It was further contended by Music Broadcasting Company that the assignment of Channel 6 could be made in Grand Rapids and could also be assigned to any one of four Wisconsin communities.

(h) **Conflicting Counterproposals and Oppositions to the Music Broadcasting Company Counterproposal.** The counterproposal of Music Broadcasting Company is in conflict with the counterproposals of the following other parties: Indiana Technical College, Fort Wayne, Ind.; Bay City Broadcasting Company, Bay City, Michigan; Delta Broadcasting Company, Escanaba, Michigan; Green Bay Newspaper Company, Green Bay, Wisconsin; WJR, The Goodwill Station, Inc., Detroit, Michigan; Booth Radio and Television Stations, Inc., Detroit, Michigan; Milwaukee Broadcasting Company, Milwaukee, Wisconsin; Hearst Radio, Inc., Milwaukee, Wisconsin; Quad-City Broadcasting Corporation, Moline, Illinois. In addition oppositions to the Music Broadcasting Company counterproposal were filed by WJIM, Inc., Lansing, Michigan; Scripps-Howard Radio, Inc., Cleveland, Ohio, and National Broadcasting Company, Inc., Chicago, Illinois.

Conclusions: Show Cause Order

486. In view of the foregoing, an appropriate authorization will be issued to Grandwood Broadcasting Company to specify operation of Station WOOD-TV on Channel 8.

Conclusions: Educational Reservation

487. In view of the foregoing, the reservation of Channel 17 in Grand Rapids for non-commercial educational use is finalized.

Conclusions: Request for Additional VHF Assignment

488. We believe that the record does not support the assignment of VHF Channel 6 to Grand Rapids. As noted above, the Music Broadcasting Company counterproposal conflicts with the counterproposal of Bay Broadcasting Company requesting the assignment of VHF Channel 5 to Bay City, Michigan. These counterproposals are mutually exclusive since Music Broadcasting Company would assign Channel 5 to Lansing[105] and Bay Broadcasting Company would assign Channel 5 to Bay City at a distance of only 69 miles. We are of the view that the counterproposal of Bay Broadcasting Company seeking a first VHF assignment for Bay City is more meritorious than that of Music Broadcasting Company seeking a second VHF assignment for Grand Rapids. Bay City has a population of 53,000 and is one of the nation's 168 metropolitan areas with a population of 88,000. Furthermore, the Music Broadcasting Company counterproposal also conflicts with the counterproposal of Green Bay Newspaper Company which requests the assignment of VHF Channel 2 to Green Bay, Wisconsin. The Music counterproposal would assign Channel 2 to Green Bay but would delete Channel 6 proposed in the Third Notice. Green Bay is a city with a population of 53,000 and has a metropolitan area population of 98,000. In light of the above, a denial of the Music Broadcasting Company counterproposal would permit the assignment of a first VHF channel to Bay City and a second VHF channel to Green Bay. In view of the foregoing, the Music Broadcasting Company counterproposal is denied.

Final Assignments and Reservation

489. The following assignments and reservation are adopted:

City	Third Notice VHF Channel No.	Third Notice UHF Channel No.	Proposed Changes VHF Channel No.	Proposed Changes UHF Channel No.
Bay City, Mich.		63	5†	63
Traverse City, Mich.	5	20,*26	7†	20,*26

City	VHF Channel No.	UHF Channel No.
Traverse City Mich.	8	*17,23

BAY CITY, MICHIGAN

490. (a) **Proposed Assignment.** In the Third Notice the Commission proposed the assignment of one channel, UHF Channel 63 to Bay City, Michigan.

(b) **Census Data.** The Bay City standard metropolitan area has a population of 88,000 and the city has a population of 53,000.

(c) **Counterproposal of the Board of Education of Bay City.** The Board of Education in Bay City requested the assignment of VHF Channel 12 to Bay City for non-commercial educational use to be accomplished by deleting this channel from Flint, Michigan, as follows:

City	Third Notice VHF Channel No.	Third Notice UHF Channel No.	Proposed Changes VHF Channel No.	Proposed Changes UHF Channel No.
Bay City, Mich.		63	*12†	63
Flint, Mich.	12	16,*22,28	†	16,*22,28

As an alternative the Board of Education requested that a UHF channel be reserved in Bay City for non-commercial educational use.

(d) **Statement in Support of Board of Education Counterproposal.** The Board of Education of Bay City asserted that if Channel 12 were assigned to Bay City, a working agreement with educational institutions in the adjoining Saginaw County would be effected in utilizing this frequency for educational television. The Board noted that Central Michigan College was interested in educational television. The Board stated that considerable progress in relation to the joint sponsorship and financing of the construction and operation of an educational station is being made and represented that should Channel 12 be reserved in Bay City it would be utilized within a reasonable period of time. As an alternative, the Board of Education requested that a UHF channel be reserved in Bay City for non-commercial educational use.

(e) **Conflicting Counterproposals and Oppositions to the Board of Education Counterproposal.** Conflicting counterproposals or oppositions to the Board of Education counterproposal were filed by Booth Radio and Television Stations, Inc., The Trebit Corporation, and Adrian Broadcasting Company. The oppositions point out that the population of the Flint area exceeds that of Bay City and Saginaw combined.

(f) **Counterproposal of Bay Broadcasting Company.** Bay Broadcasting Company requested the assignment of VHF Channel 5 to Bay City. This assignment would be accomplished by substituting Channel 7 in Traverse City, Michigan for Channel 5, as follows:

City	Third Notice VHF Channel No.	Third Notice UHF Channel No.	Proposed Changes VHF Channel No.	Proposed Changes UHF Channel No.
Bay City, Mich.		63	5†	63
Traverse City, Mich.	5	20,*26	7†	20,*26

(g) **Statement in Support of Bay Broadcasting Company Counterproposal.** Bay Broadcasting Company urged that a substantial portion of the north central area of lower Michigan would receive its first VHF Grade A and Grade B service from the operation of Channel 5 in Bay City. It was pointed out that Bay City, with a population of over 50,000 ranks 8th in the State of Michigan but is assigned only one UHF channel in the Third Notice. It was further contended that nine cities in Michigan with lesser populations than Bay City are assigned two or more channels, and that twenty-five cities with less than one-half the population of Bay City are assigned an equal or greater number of channels than Bay City.

(h) **Conflicting Counterproposals and Oppositions to the Bay Broadcasting Company Counterproposal.** The counterproposal of Bay Broadcasting Company is in conflict with that of Booth Radio and Television Stations, Inc., Detroit, Michigan; and Music Broadcasting Company, Grand Rapids, Michigan. Oppositions to the counterproposal of Bay Broadcasting Company have been filed by the above two parties and by Scripps-Howard Radio, Inc., Cleveland, Ohio, and WJIM, Inc., Lansing, Michigan. Channel 5 in Bay City would be 183 miles from Cleve-

[104] On September 19, 1951, the Commission approved the transfer of this station from Leonard A. Versluis to the present licensee. The call letters of this station were formerly WLAV-TV.

[105] Although Music Broadcasting Company suggested that under its counterproposal Channel 6 could be added to Clintonville, Shawano, New London or Waupaca, Wisconsin, no counterproposals requesting assignments for these communities were filed in this proceeding. The population of these communities is as follows: Clintonville—5,000; Shawano—6,000; New London—5,000; and Waupaca—4,000.

land, Ohio, where Station WEWS is operating on Channel 5. Scripps-Howard, Inc., licensee of Station WEWS, opposed the Bay Broadcasting Company counterproposal urging that the possibility of interference due to tropospheric transmissions over Lake Erie requires greater separation. It should be noted, however, that the distance between Bay City and the WEWS transmitter site in Cleveland is 189 miles. The assignment of Channel 5 at Bay City would be 69 miles from the adjacent channel assignment of Channel 6 in Lansing, Michigan, where Station WJIM-TV is presently operating. WJIM, Inc., licensee of Station WJIM-TV, opposed the Bay Broadcasting Company counterproposal since it did not meet the 70 mile city-to-city adjacent channel spacing required by the Third Notice. However, we have elsewhere in this Report reduced the required adjacent channel assignment spacing for VHF channels to 60 miles.

Conclusions: VHF Assignment

491. We believe the record supports the basis for the assignment of VHF Channel 5 to Bay City. This assignment will provide a first VHF channel to a community of 53,000 people situated in a metropolitan area with a population of 88,000. As noted above, the Bay Broadcasting Company counterproposal conflicts with the counterproposal of Music Broadcasting Company requesting a second VHF channel for Grand Rapids, and the counterproposal of Booth Radio and Television Stations, Inc., requesting a fourth VHF channel for Detroit. We have pointed out in connection with our discussion of the above counterproposals that we believe the request for a first VHF channel for Bay City is to be preferred to a second VHF channel for Grand Rapids or a fourth for Detroit. The 69 mile spacing between Bay City and Lansing where adjacent Channel 6 is being utilized by Station WJIM-TV meets the requirements for adjacent channel station separation. We believe, also, that the spacing of 189 miles between Bay City and Station WEWS, Cleveland, operating on Channel 5 will be adequate to prevent undue interference due to tropospheric propagation. The assignment of Channel 7 in Traverse City rather than Channel 5 will meet all required mileage spacings. Accordingly, VHF Channel 5 will be assigned to Bay City.

Conclusions: Educational Reservation

492. We are of the view that the assignment of VHF Channel 12 in Bay City to be reserved for noncommercial educational use is not warranted since it can be accomplished only by deleting Channel 12 the only VHF assignment in Flint, a city with a population of 163,000 within a metropolitan area with a population of 271,000. Accordingly, the Board of Education counterproposal requesting the reservation of VHF Channel 12 in Bay City is denied. While we have assigned Chanel 5 to Bay City, we do not believe that this channel should be reserved for use by noncommercial educational stations. The Board of Education did not request the reservation of Channel 5 and in accordance with our policy with respect to the reservation of VHF channels, Channel 5 should not be so reserved since three VHF assignments have not been made to Bay City. However, we believe that the record supports the basis for granting the Board of Education's alternative request that a UHF channel be reserved in Bay City for non-commercial educational use. Channel 73 will, therefore, be assigned to Bay City and will be reserved for non-commercial educational use.

Final Assignments and Reservation

493. The following assignments and reservation are adopted:

City	VHF Channel No.	UHF Channel No.
Bay City, Mich.	5	63,*73

TRAVERSE CITY, MICHIGAN: EDUCATIONAL RESERVATION

494. (a) **Proposed Assignments and Reservation.** In the Third Notice the Commission proposed the assignment of three channels to Traverse City: VHF Channel 5 and UHF Channels 20 and 26, with Channel 26 reserved for non-commercial educational use.

(b) The JCET supported the reservation of Channel 26 in Traverse City for non-commercial educational use and submitted a statement of the Superintendent of Public Instruction of the State of Michigan supporting the reservation. No oppositions to the proposed reservation were filed.

Conclusions: Educational Reservation

495. In view of the foregoing, the reservation of Channel 26 in Traverse City for non-commercial educational use is finalized.

Final Assignments and Reservation

496. As noted above in connection with the discussion of Bay City, Channel 7 was substituted for Channel 5 in Traverse City. Accordingly, the following assignments and reservation are adopted:

City	VHF Channel No.	UHF Channel No.
Traverse City, Mich.	7	20,*26

SAGINAW, MICHIGAN

497. (a) **Proposed Assignments.** In the Third Notice the Commission proposed the assignment of 2 channels to Saginaw, Michigan, UHF Channels 51 and 57.

(b) **Census Data.** The standard metropolitan area of Saginaw has a population of 154,000 and the City of Saginaw a population of 93,000.

(c) **Counterproposal of Saginaw Broadcasting Company.** Saginaw Broadcasting Company requested that Channel 19 be deleted from Midland and assigned to Saginaw and that Channel 51 be deleted from Saginaw and substituted in Midland. Saginaw Broadcasting Company also requested the additional assignment of UHF Channel 28 to Saginaw, to be accomplished by deleting this channel from Flint, Michigan and by making the following changes in the assignments proposed in the Third Notice:

City	Third Notice		Proposed Changes	
	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.
Saginaw, Michigan		51,57		19+,28+,57
Midland, Michigan		19		51+
Flint, Michigan	12	16,*22,28		12,16*22,+

(d) **Statement in Support of Saginaw Broadcasting Company Counterproposal.** Saginaw Broadcasting Company urged that Saginaw is considerably larger than Midland and that Channel 19 would provide a better service to the larger community, while Channel 51 would amply serve the needs of Midland. With respect to Channel 28, it was noted that four channels are proposed for Flint, Michigan, including one VHF channel, and it was, therefore, contended that a fair, efficient and equitable distribution of facilities would require the removal of Channel 28 from Flint to Saginaw. The population of Flint is 163,000.

(e) **Conflicting Counterproposals and Oppositions to the Saginaw Broadcasting Company Counterproposal.** Conflicting counterproposals and oppositions to the Saginaw Broadcasting Company counterproposal were filed by Booth Radio and Television Stations, Inc. and WJR, The Goodwill Station, Inc., both of Detroit, Michigan.

Conclusions

498. We do not believe that the record supports the basis for assigning UHF Channel 19 to Saginaw by moving Channel 51 from Saginaw to Midland. The Commission does not recognize differences in UHF channels for assignment purposes; accordingly, we see no basis for the deletion of Channel 28 from Flint, Michigan in order to make possible its assignment to Saginaw. It should be pointed out that Saginaw lies only 12 miles from Bay City where the Commission is assigning one VHF and two UHF channels, with one UHF channel reserved for noncommercial educational use. Under these circumstances we do not believe that a channel should be deleted from a city the size of Flint in order to afford an additional channel to Saginaw. Accordingly, the counterproposal of Saginaw Broadcasting Company is denied.

Final Assignments

499. In view of the foregoing, the following assignments are adopted:

City	UHF Channel No.
Saginaw	51,57

ESCANABA, CALUMET, AND CADILLAC, MICHIGAN

500. (a) **Proposed Assignments.** In the Third Notice one channel, VHF Channel 13, was assigned to Escanaba, Michigan, and one channel, UHF Channel 45, to Cadillac, Michigan. No channels were assigned in the Third Notice to Calumet, Michigan.

(b) **Census Data.** Escanaba has a population of 15,000, Cadillac a population of 10,000 and Calumet a population of 1,200.

(c) **Counterproposal of Delta Broadcasting Company.** Delta Broadcasting Company requested that VHF Channel 3 be substituted in Escanaba for VHF Channel 13. In order to accomplish this assignment, Channel 7 would be substituted in Traverse City for Channel 5;[106] Channel 10 would be substituted in Hancock, Michigan for Channel 5; and Channel 5 substituted in Marquette, Michigan, for Channel 3. In addition, it was asserted that with the above proposed frequency changes Channel 13 could be assigned to both Cadillac and Calumet, Michigan, that Channel 5 could be assigned to Essexville, Michigan, and Channel 2 assigned to Green Bay, Wisconsin. Following are the changes in the assignments proposed in the Third Notice requested by Delta Broadcasting Company:

City	Third Notice		Proposed Changes	
	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.
Escanaba, Michigan	13		3+	
Hancock, Michigan	5		10+	
Traverse City, Mich.	5	20,*26	7+	20,*26
Marquette, Michigan	3	17	5+	17
Cadillac, Michigan		45	13+	45
Calumet, Michigan			13+	
Essexville, Mich.			5+	
Green Bay, Wisconsin	6		2+,6	

(d) **Statement in Support of Delta Broadcasting Company Counterproposal.** Delta Broadcasting Company urged that Channel 3 at Escanaba would better serve the hilly terrain surrounding that community. It was contended that Channel 3 would provide wider coverage than would Channel 13; that the use of Channel 3 in Escanaba as proposed would make possible additional VHF assignments in Cadillac, Calumet, and Essexville, Michigan and Green Bay, Wisconsin; and that, accordingly, the Delta Broadcasting Company counterproposal would accomplish an appreciable advance in fulfilling the Commission's priorities.

(e) **Conflicting Counterproposal to the Delta Broadcasting Company Counterproposal.** The Delta Broadcasting Company counterproposal conflicts with the counterproposal of Music Broadcasting Company, Grand Rapids, Michigan since Music Broadcasting Company would assign Channel 5 in Lansing while Delta Broadcasting Company would assign this channel in Essexville 75 miles from Lansing. However, the Music Broadcasting Company counterproposal has been denied for the reasons stated in the discussion of Grand Rapids above.

Conclusions

501. The Commission, for assignment purposes, does not recognize differences in VHF channels. However, as was pointed out by Delta Broadcasting Company a grant of its counterproposal would make possible additional VHF assignments in other communities. Channel 13 could be assigned to both Cadillac and Calumet, Michigan. Delta Broadcasting Company also suggested that Channel 5 could be assigned to Essexville, Michigan and Channel 2 to Green Bay, Wisconsin. The Commission has granted the counterproposal of Bay City Broadcasting Company to assign Channel 5 to Bay City, Michigan, which is less than 3 miles from Essexville. Accordingly, Channel 5 could not be assigned to Essexville. With respect to the assignment of Channel 2 in Green Bay, the Commission is below granting the counterproposal of the Green Bay Broadcasting Company which requests the assignment of Channel 2 to Green Bay, and this change is not dependent on the Delta counterproposal. In summary, therefore, the channel changes suggested by Delta Broadcasting Company would make pos-

[106] The Commission has below substituted Channel 7 in Traverse City for Channel 5 in connection with the counterproposal of Bay Broadcasting Company of Bay City, Michigan.

sible the assignment of a VHF channel in Cadillac and Calumet. We believe, therefore, that the substitution of Channel 3 in Escanaba for Channel 13 will effect a more efficient use of the VHF channels. All of the suggested assignments except the one to Essexville meet the required minimum spacings. As noted above, the Delta Broadcasting Company counterproposal conflicts with the counterproposal of Music Broadcasting Company, Grand Rapids, Michigan. However, we have above denied this counterproposal for the reasons stated in the discussion of Grand Rapids.

Final Assignments

502. The following assignments are adopted:

City	VHF Channel No.	UHF Channel No.
Escanaba, Michigan	3	
Cadillac, Michigan	13	45
Calumet, Michigan	13	
Hancock, Michigan	10	
Marquette, Michigan	5	17

SAULT STE. MARIE, MICHIGAN EDUCATIONAL RESERVATION

503. (a) **Proposed Reservation.** In the Third Notice the Commission proposed the reservation of UHF Channel 34 in Sault Ste. Marie for non-commercial educational use.

(b) The JCET supported the reservation of Channel 34 in Sault Ste. Marie for non-commercial educational use and submitted a statement of the Sault Ste. Marie Public Schools supporting the reservation. No objections were filed to the proposed reservation.

Conclusions

504. In view of the foregoing, the reservation of Channel 34 in Sault Ste. Marie for non-commercial educational use is finalized.

ANN ARBOR, MICHIGAN EDUCATIONAL RESERVATION

505. (a) **Proposed Reservation.** In the Third Notice the Commission proposed the reservation of UHF Channel 26 in Ann Arbor for non-commercial educational use.

(b) The Regents of the University of Michigan at Ann Arbor filed a statement supporting the reservation of Channel 26 in Ann Arbor for non-commercial educational use. It was stated that a Faculty-Administration Television Committee had for some time been studying the advisability of the University's owning and operating a television station and had recommended to the Board of Regents that an application should be filed when channels are available. No oppositions to the reservation were filed.

Conclusions

506. In view of the foregoing, the reservation of Channel 26 in Ann Arbor for non-commercial educational use is finalized.

CHICAGO, ILLINOIS

507. (a) **Proposed Assignments and Reservation.** In the Third Notice 10 channels were assigned to Chicago: VHF Channels 2, 5, 7, 9 and 11 and UHF Channels 20, 26, 32, 38 and 44, with Channel 11 reserved for non-commercial educational use.

(b) **Census Data.** The Chicago standard metropolitan area has a population of 5,495,000 and the City of Chicago has a population of 3,621,000.

(c) **Existing Stations.** Four stations are presently in operation in Chicago on Channels 4, 5, 7 and 9. Balaban and Katz Corporation is authorized to operate Station WBKB on Channel 4. Balaban and Katz has been ordered to show cause why the authorization of Station WBKB should not be modified to specify operation on Channel 2 in lieu of Channel 4. National Broadcasting Company, Inc., is licensed to operate Station WNBQ on Channel 5. American Broadcasting Company, Inc., is licensed to operate Station WENR-TV on Channel 7. WGN, Inc. is licensed to operate Station WGN-TV on Channel 9.

(d) **Answer to Show Cause Order.** Balaban and Katz Corporation advised the Commission that it had no objection to the proposed modification of its authorization for Station WBKB to specify operation on Channel 2 in lieu of Channel 4. The application of Balaban and Katz for the renewal of license of WBKB has been designated for hearing. (Docket No. 10038.)

(e) **Counterproposal of Columbia Broadcasting System, Inc.** Columbia Broadcasting System, Inc. requested the assignment of VHF Channel 13 to Chicago.[107] This would be accomplished by the following changes: VHF Channel 13 would be deleted from Rockford, Illinois and UHF Channel 51 would be substituted in that community; UHF Channel 64 would be substituted in Indianapolis, Indiana for VHF Channel 13; UHF Channel 23 would be substituted in Muncie, Indiana for UHF Channel 49; UHF Channel 45 would be substituted in Connersville, Indiana for UHF Channel 38, and UHF Channel 57 would be substituted for Channel 44 at Piqua, Ohio. As an alternative, CBS requested that the educational reservation in Chicago be shifted to a UHF channel. In tabular form, the CBS counterproposal requested the following changes:

City	Third Notice		Proposed Changes	
	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.
Chicago, Illinois	2,5,7,9, *11	20,26,32, 38,44	2,5,7,9, *11,13†	20,26,32, 38,44
Rockford, Illinois	13	39,*45	†	39,*45,51†
Connersville, Ind.		38		45†
Indianapolis, Ind.	6,8,*13	20,26	6,8,†	20,26,*64†
Muncie, Indiana		49,55		23†,55
Piqua, Ohio		44		57
or, in the alternative:				
Chicago	2,5,7,9, *11	20,26,32, 38,44	2,5,7,9, 11	*20,26,32, 38,44

(f) **Statement in Support of CBS Counterproposal.** In support of its counterproposal requesting the assignment of VHF Channel 13 to Chicago, CBS urged that an additional VHF Channel is needed in that city. The basic premise upon which CBS's counterproposal rests is the need for insuring the possibility of a nationwide competitive commercial television service. CBS contended that though UHF woud ultimately be reasonably competitive, there would be a substantial period of time during which commercial broadcasters in the UHF could not effectively compete with VHF broadcasters. CBS also pointed out that a network owning no station in Chicago would be at an enormous competitive disadvantage.[108] The arguments urged by CBS for the addition of a VHF channel in Chicago were also offered in connection with its counterproposal seeking the addition of a VHF channel in Boston, Massachusetts. We have in connection with our discussion of the Boston counterproposal considered these arguments.

(g) **Conflicting Counterproposals and Oppositions to the CBS Counterproposal.** Oppositions and conflicting counterproposals to the CBS counterproposal urging the assignment of VHF Channel 13 for Chicago have been filed by the following parties: William H. Block Company, Indianapolis, Indiana; Radio Indianapolis, Inc., Indianapolis, Indiana; Booth Radio and Television Stations, Inc., Detroit, Michigan; Crosley Broadcasting Corp.; Lake Broadcasting Company, Gary, Indiana; Indianapolis Broadcasting, Inc., Indianapolis, Indiana; Milwaukee Broadcasting Company, Milwaukee, Wisconsin; and WIBC, Inc., Indianapolis, Indiana.

(h) **Educational Reservation in Chicago.** The Illinois Institute of Technology filed a statement supporting the reservation of VHF Channel 11 in Chicago for non-commercial educational use. It was noted that a "Working Committee for Developing the Use of Channel 11 for Education in Chicago" had been formed on May 9, 1951 and included the following members: Loyola University, University of Illinois (Chicago Professional Colleges); Chicago Public Schools, University of Illinois (Navy Pier Branch), DePaul University, Illinois Institute of Technology, Arts Institute of Chicago, Roosevelt College, University of Chicago, Chicago Historical Society, Museum of Science and Industry and Northwestern University. The Illinois Institute of Technology submitted letters from each of the other members of the Working Committee expressing support for the reservation. The JCET also filed a statement supporting the reservation and indicating the support of Columbia College and George Williams College. It was stated that the Working Committee is conducting studies of financing, programming and operation of an educational television station on a cooperative basis. Seven institutions indicated they could contribute to the programming of such a station. It was contended that an educational television station on Channel 11 in Chicago would serve at least 60% of the population of Illinois. It was pointed out that the Board of Education of the City of Chicago has organized the "General Superintendent's Committee on Television" to consider the educational implications of television and the part that the Chicago school system would play in the joint operation of Channel 11.

(i) **Opposition to the Educational Reservation.** CBS, as an alternative to its counterproposal discussed above, requested that the educational reservation in Chicago be shifted to a UHF channel. CBS contended that it would be at a competitive disadvantage if it did not own a VHF station in Chicago. CBS argued that the statement of the Illinois Institute of Technology did not indicate any assurance that Channel 11 would be utilized or that a UHF channel would not serve equally as well. CBS contended that the educators offered no indication of the source of its funds, when an educational station might commence operation, or how they were prepared to translate program suggestions into actual programs. In reply to CBS, the JCET argued that educators will be dependent upon set circulation for their effect and that to shift the reservation to a UHF channel would greatly handicap the educators in obtaining funds. The JCET also urged that in view of CBS's financial resources, it was in a much better position to shoulder the burden of developing UHF in Chicago than would be the educational interests.

Conclusions: Show Cause Order

508. In view of the foregoing and the pendency of the hearing on the renewal of license of WBKB (Docket No. 10033) an appropriate temporary authorization will be issued to the licensee of Station WBKB in order to permit operation on Channel 2 in lieu of Channel 4.

Conclusions: Additional Commercial VHF Assignment

509. We are of the view that the record does not support the assignment of VHF Channel 13 to Chicago. This assignment could be achieved only by deleting VHF channels in Rockford, Illinois, and Indianapolis, Indiana. Rockford is a metropolitan area with a population of 152,000 and has a city population of 93,000. Indianapolis has a metropolitan area population of 552,000 and a city population of 427,000. We do not believe that the assignment of a 6th VHF channel to Chicago is warranted at the expense of deleting the only VHF channel from Rockford and one of three VHF channels from Indianapolis. Moreover, the CBS counterproposal would necessitate a reduction in the number of VHF assignments and would, therefore, constitute an inefficient use of the spectrum. Accordingly, the CBS counterproposal requesting the assignment of VHF Channel 13 in Chicago is denied. The CBS alternative request for the shifting of the educational reservation in Chicago to a UHF channel is made on the same basis as its request in Boston. We have, in connection with our discussion of Boston, considered the CBS contentions and for the reasons there stated rejected them. We are of the view in the instant case that the record requires the finalization of the educational reservation and that the educational reservation should not be shifted to the UHF. In the Third Notice we stated that a VHF channel would be reserved in all communities with three or more VHF channels where all such VHF

[107] CBS's original counterproposal consisted of 3 alternative plans for Chicago. CBS has since withdrawn plans B and C leaving only plan A for consideration. Accordingly, plans B and C and all comments and oppositions relating thereto will not be discussed in this Report.

[108] CBS has contracted with Balaban and Katz, operating Station WBKB in Chicago, to acquire control of that station. Application for consent of assignment to CBS has been filed by Balaban and Katz and Columbia. Final action on this application has not yet been taken by the Commission. CBS pointed out that all VHF assignments for commercial assignments in the Chicago area are already in operation, leaving no VHF channels for which application could be made by a network or other commercial broadcaster.

assignments were not in operation. We can see no reason for deviating from this decision in Chicago.[109] We believe that the record justifies the reservation of VHF Channel 11. Accordingly, the CBS request is denied and the reservation of Channel 11 in Chicago for non-commercial educational use is finalized.

Final Assignments and Reservations

510. The following assignments and reservation are adopted:

City	VHF Channel No.	UHF Channel No.
Chicago	2,5,7,9,*11	20,26,32,38,44

ROCKFORD, ILLINOIS: EDUCATIONAL RESERVATION

511. (a) **Proposed Reservation.** In the Third Notice the Commission proposed the reservation of Channel 45 in Rockford for non-commercial educational use.

(b) The City of Rockford, Rockford Public Schools, and Rockford College filed statements supporting the reservation of Channel 45 in Rockford for non-commercial educational use. Resolutions of the City Council, Board of Education, and the Board of Trustees of Rockford College were submitted supporting the reservation. No oppositions to the reservation were filed.

Conclusions

512. In view of the foregoing, the reservation of Channel 45 in Rockford for non-commercial educational use is finalized.

SPRINGFIED, ILLINOIS EDUCATIONAL RESERVATION

513. (a) **Proposed Reservation.** In the Third Notice the Commission proposed the reservation of UHF Channel 26 in Springfield for non-commercial educational use.

(b) The Board of Education of School District No. 186, Springfield, Illinois filed a statement supporting the reservation of Channel 26 in Springfield. The Board of Education stated that it is surveying the matter of costs of construction and operation of an educational television station and the possibilities of joint operation of a station by educational interests in the area. It was contended that the reservation is required in order to permit the Board to complete the survey. No oppositions to the reservation were filed.

Conclusions

514. In view of the foregoing, the reservation of Channel 26 in Springfield, Illinois for non-commercial educational use is finalized.

DEKALB, ILLINOIS

515. (a) **Proposed Assignments.** In the Third Notice no channels were assigned to DeKalb, Illinois.

(b) **Census Data.** DeKalb has a population of 12,000.

(c) **Counterproposal of Northern Illinois State Teachers College.** The Northern Illinois State Teachers College requested the assignment of UHF Channel 67 in DeKalb to be reserved for non-commercial educational use. No other changes in the assignments proposed by the Commission in the Third Notice were requested. No oppositions or conflicting counterproposals were filed.

(d) **Statement in Support of Illinois State Teacher College Counterproposal.** Illinois State Teachers College represented that it is very interested in constructing and operating a non-commercial educational television station. It stated that the College is presently constructing a new library containing a theatre-television studio. The College listed various types of educational programs it proposed to utilize including cooperative, general adult education, extension, laboratory, sports, entertainment, and special events programs. The college stated that its next budget to be presented to the State Teachers College Board and the State Legislature would include funds for the construction of an educational television station at DeKalb.

Conclusions

516. We believe the record supports the assignment of UHF Channel 67 to DeKalb and the reservation of that channel for non-commercial educational use. Accordingly, Channel 67 is assigned to DeKalb and reserved for non-commercial educational use.

Final Assignment and Reservation

517. The following assignment is adopted:

City	UHF Channel No.
DeKalb, Illinois	*67

CARBONDALE, ILLINOIS

518. (a) **Proposed Assignments.** In the Third Notice one channel, UHF Channel 34, was assigned to Carbondale, Illinois.

(b) **Census Data.** The population of Carbondale is 11,000.

(c) **Counterproposal of Southern Illinois University.** Southern Illinois University requested the assignment of VHF Channel 10 to Carbondale to be reserved for non-commercial educational use by making the following changes in the assignments proposed in the Third Notice:

City	Third Notice		Proposed Changes	
	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.
Carbondale, Illinois		34	*10†	34
Bloomington, Indiana	4	*30,36	11†	*30,36
Indianapolis, Indiana	6,8,*13	20,26	4†,8,*13	20,26
Terre Haute, Indiana	10	*57,63	6†	*57,63
Louisville, Kentucky	3,11	*15,21	3,10†	*15,21
Paducah, Kentucky	6	43	12†	43
Cape Girardeau, Mo.	12	18	6†	18

(d) **Statement in Support of Southern Illinois University Counterproposal.** Southern Illinois University urged that the assignment of Channel 10 in Carbondale would serve the southernmost third of Illinois, one of the most underdeveloped areas in the United States with high unemployment and a low living standard. The University stated that the development of new trades and skills and the raising of the educational and cultural level in Southern Illinois is of major concern to the University and urged that educational television could be instrumental in assisting development in this area. It was contended that a VHF channel is necessary to serve the large but dispersed population in the area. The University submitted a proposed weekly programming schedule which was designed to aid in the education and rehabilitation of the area. The University stated that it was fully cognizant of the costs of the proposed operation and stated that construction and operating costs would come from University budget funds appropriated each biennium by the State Legislature. It was stated that the University administration is authorized to distribute these funds in a manner deemed by the University to be most advantageous, and that since the University considers television to be of major importance in education, it would be in a position to allocate funds for the proposed television operation.

(e) The Southern Illinois University counterproposal would substitute Channel 10 for Channel 11 in Louisville, Kentucky, Channel 11 for Channel 4 in Bloomington, Indiana, and Channel 4 for Channel 6 in Indianapolis, Indiana. Station WHAS-TV is presently operating in Louisville on Channel 9 but has been ordered to show cause in this proceeding why its authorization should not be modified to specify operation on Channel 11. The Southern Illinois University counterproposal would necessitate shifting Station WHAS-TV to Channel 10 rather than Channel 11. Station WTTV is presently operating in Bloomington, Indiana, on Channel 10 but has been ordered to show cause in this proceeding why its authorization should not be modified to specify operation on Channel 4. The Southern Illinois University counterproposal would necessitate shifting Station WTTV to Channel 11 rather than Channel 4. Station WFBM-TV is presently operating in Indianapolis, Indiana, on Channel 6. The Southern Illinois University counterproposals would require shifting Station WFBM-TV to Channel 4. The Southern Illinois University counterproposal would assign Channel 4 at Indianapolis. This channel will also be utilized in Columbus, Ohio, where Station WLWC, licensed to Crosley Broadcasting Corporation, will operate. The distance between the transmitter sites of WLWC in Columbus and WFBM-TV in Indianapolis would be 166.2 miles. Under the Third Notice the distance between WFBM-TV on Channel 6 in Indianapolis and Station WTVN in Columbus also on Channel 6, is 167.8 miles. The Southern Illinois University counterproposal would assign Channel 10 at Louisville 188 miles from the co-channel assignment at Knoxville, Tennessee. Both Louisville and Knoxville are situated in Zone II; and, therefore, this separation would be below the 190 mile minimum co-channel assignment separation in this zone.

(f) **Conflicting Counterproposals and Oppositions to the Southern Illinois University Counterproposals.** WHAS, Inc., Louisville, Kentucky; WFBM, Inc., Indianapolis, Indiana; and Crosley Broadcasting Corporation, Columbus, Ohio, all filed oppositions to the Southern Illinois University counterproposal. Conflicting counterproposals and oppositions have been filed by WIBC, Inc., Indianapolis, Indiana; Lake Broadcasting Company, Gary, Indiana; L. B. Wilson Company, Cincinnati, Ohio; and Logansport Broadcasting Company, Logansport, Indiana and Owensboro On The Air, Inc., Owensboro, Kentucky. All of the above conflicting counterproposals have been denied for other reasons.

Conclusions

519. We are of the view that the Southern Illinois University counterproposal in so far as it requests the assignment of VHF Channel 10 at Carbondale must be denied. This assignment would necessitate deviating from the required minimum assignment spacings. The University in order to assign Channel 10 to Carbondale proposes that Channel 10 be assigned at Louisville. Station WHAS-TV operating on Channel 10 at Louisville would be only 189 miles from the co-channel assignment at Knoxville. Since both these cities are situated within Zone II, this spacing would not meet the 190 mile minimum assignment separation. In view of the foregoing, the counterproposal of Southern Illinois University in so far as it requests the assignment of VHF Channel 10 in Carbondale is denied. We believe, however, that the record supports the basis for assigning a channel to Carbondale to be reserved for non-commercial educational use. Accordingly, Channel 61 will be assigned to Carbondale for this purpose.

Final Assignments and Reservation

520. The following assignments and reservation are adopted:

City	UHF Channel No.
Carbondale, Illinois	34, *61

DAVENPORT, IOWA-ROCK ISLAND-MOLINE, ILLINOIS

521. (a) **Proposed Assignments and Reservation.** In the Third Notice the Commission proposed the following assignments and reservation:

City	VHF Channel No.	UHF Channel No.
Davenport, Iowa,-Rock Island-Moline, Ill.	4,6	*30, 36, 6

(b) **Census Data.** The standard metropolitan area of Davenport-Rock Island-Moline has a population of 234,000. The population of Davenport is 75,000. The population of Rock Island is 49,000. The population of Moline is 37,000.

(c) **Existing Stations.** Central Broadcasting Company is licensee for the operation of WOC-TV, Davenport, Iowa, on Channel 5. The licensee was ordered to show cause why the license of WOC-TV should not be modified to specify Channel 6 in lieu of Channel 5. Rock Island Broadcasting Company is licensed for operation of WHBF-TV, Rock Island, on Channel 4.

(d) **Counterproposal of Quad-City Broadcasting Corp.** Quad-City Broadcasting Corp. requested the additional assignment of Channel 10 to Davenport-Rock Island-Moline-East Moline[110] by making the following changes in the assignments proposed in the Third Notice:

[109] See also our decision with respect to the Boston educational reservation.

[110] Davenport Broadcasting Corp., Inc., Davenport, requested the assignment of Channel 2 to Atalissa, Iowa, at a distance of 50 miles from Davenport. This assignment would be accomplished by the deletion of Channel *11 from Des Moines. This request has been considered in connection with the Des Moines educational reservation.

City	Third Notice		Counterproposal	
	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.
Centralia, Ill.	2	32	7+	32
Quincy, Ill.	10	21	5+	21
Rockford, Ill.	13	39,*45	3+	39,*45
Springfield, Ill.	3	20,*26	13+	20,*26
Evansville, Ind.	7	50,*56,62	5+	50,*56,62
Cedar Rapids, Iowa	9	20,*26	2+	20,*26
Davenport-Rock Island-Moline	4,6	*30,36,42	4,6,10+	*30,36,42
Iowa City, Iowa	*2	24	*12+	24
Mason City, Iowa	12	35	3+	35
Waterloo, Iowa	7	16,*22	9+	16,*22
Lawrence, Kan.	*11	17	*2+	17
Pittsburg, Kan.	7	38	12+	38
Grand Rapids, Mich.	8	*17,23	10+	*17,23
Iron Mountain, Mich.	9	27	7+	27
Austin, Minn.	6	51	10+	51
Duluth-Superior, Wis.	3,6,*8	32,38	3,6,*13+	32,38
Rochester, Minn.	10	55	6+	55
Hannibal, Mo.	7	27	3	27
Jefferson City, Mo.	13	33	6+	33
Joplin, Mo.	12	30	7+	30
Kansas City, Mo.	4,5,*9	19,25	4,5,*11+	19,25
Kirksville, Mo.	12	18	7+	18
St. Joseph, Mo.	2	30,*36	9+	30,*36
St. Louis, Mo.	4,5,*9,11	30,36,42	2+,4,*9,11	30,36,42
Sedalia, Mo.	6	28	10+	28
Springfield, Mo.	3,10	*26,32	3,9+	*26,32
Eau Claire, Wis.	13	*19,25	8+	*19,25
La Crosse, Wis.	8	*32,38	7+	*32,38
Madison, Wis.	3	*21,27,33	13+	*21,27,33
Milwaukee, Wis.	4,*10,12	19,25,31	4,*8,12	19,25,31
Wausau, Wis.	7	16	10+	16

(e) **Statement in Support of Quad City Counterproposal.** Quad City Broadcasting Corporation urged that there are approximately 54,000 VHF receivers in the area; and that a long period would elapse before the existing receivers could be converted or new receivers obtained capable of receiving ultra high frequencies; that the Commission's assignments in the Third Notice would limit the area to the programs of two networks thus preserving the existing monopolistic situation; and that the two VHF frequencies proposed for Davenport-Rock Island-Moline are already in operation by existing stations and that there is demand for additional frequencies.

(f) **Oppositions and Conflicting Counterproposals to Quad City Broadcasting Corp. Counterproposal.** Oppositions and conflicting counterproposals to the counterproposal of Quad City Broadcasting Corporation were filed by the following parties: Evansville Television, Inc., Evansville, Indiana; KFEQ, Inc., St. Joseph, Missouri; The Journal Company (WTMJ-TV), Milwaukee, Wisconsin; Badger Broadcasting Company, Madison, Wisconsin; Cedar Valley Broadcasting Company, Inc., Austin, Minnesota; Milwaukee Broadcasting Company and Hearst Radio, Inc., Milwaukee, Wisconsin; the Gazette Company, Cedar Rapids, Iowa; Davenport Broadcasting Company, Davenport, Iowa; The Black Hawk Broadcasting Company, Waterloo, Iowa; the Northwest Broadcasting Company, Fort Dodge, Iowa; Midland Broadcasting Company, Kansas City, Missouri; University of Illinois, Urbana, Illinois; Michigan State College, East Lansing, Michigan; The Trebit Corporation, Flint, Michigan; WJR, The Goodwill Station, Inc., Detroit, Michigan; Milton J. Hinlein, Sedalia, Missouri; Pulitzer Publishing Company (KSD-TV), St. Louis, Missouri, KNUJ, Inc., New Ulm, Minnesota; Champaign News Gazette, Inc., Champaign, Illinois; Peoria Broadcasting Company and West Central Broadcasting Company, Peoria, Illinois.

(g) The counterproposal of Quad City Broadcasting Company would result in the following co-channel separations below 190 miles in Zone II:

Channel 9—Waterloo, Iowa—Minneapolis, Minn. 180 mi.
Channel 12—Pittsburg, Kansas—Hutchinson, Kan., 181 miles.
Channel 10—Austin, Minn.—Wausau, Wis., 187 miles.
Channel 6—Rochester, Minn.—Superior, Wis., 187 miles.
Channel 11—Kansas City, Mo.—Des Moines, Iowa, 180 mi.
Channel 7—La Crosse, Wis.—St. Cloud, Minn., 189 miles.

(h) **Answer of Central Broadcasting Co., to Show Cause Order.** Central Broadcasting Company, licensee of WOC-TV, stated that it did not object to the proposal to change its assignment to Channel 6.

(i) **The Davenport-Rock Island-Moline Educational Reservation.** The Independent School District, Davenport, Iowa, supported the reservation of UHF Channel 30 at Davenport-Rock Island-Moline, for non-commercial educational use. The Independent School District stated that at a meeeting of representatives of colleges and secondary schools of the area the unanimous opinion was voiced that an educational television channel should be assigned to the Davenport-Rock Island-Moline area. The JCET also supported the reservation of UHF Channel 30 in the Davenport-Rock Island-Moline area. No objection was filed to the proposed reservation.

Conclusions: Show Cause Order

522. In view of the foregoing, an appropriate authorization will be issued to Central Broadcasting Company to specify operation of WOC-TV on Channel 6.

Conclusion: Educational Reservation

523. In view of the foregoing the reservation of Channel 30 in Davenport-Rock Island-Moline for non-commercial educational use is finalized.

Conclusions: Request for Additional Commercial VHF Assignment.

524. It is our view that the counterproposal of Quad City Broadcasting Corp. seeking the assignment of Channel 10 to Davenport-Rock Island-Moline must be denied. As indicated above the changes in the proposed Table of Assignments requested by Quad City Broadcasting Corp. would result in six separations below the minimum provided herein for co-channel assignments in Zone II. Accordingly, the counterproposal of Quad City Broadcasting Corp. is denied.

Final Assignments and Reservation

525. The following assignments and reservation are adopted:

City	VHF Channel No.	UHF Channel No.
Davenport-Rock Island-Moline	4,6	*30, 36, 42

CHAMPAIGN, URBANA, PEORIA, ILLINOIS; NEW ULM, MANKATO, MINNESOTA; WATERLOO, CEDAR RAPIDS, IOWA

526. (a) **Proposed Assignments and Reservations.** In the Third Notice the Commission proposed the following assignments and reservations:

City	VHF Channel No.	UHF Channel No.
Champaign, Illinois		21
Urbana, Illinois	*12	27,33
Peoria, Illinois	8	*37,43
New Ulm, Minnesota		43
Mankato, Minnesota		15
Waterloo, Iowa	7	16,*22
Cedar Rapids, Iowa	9	20,*26

(b) **Counterproposals.** Various parties in this proceeding filed conflicting counterproposals seeking the assignment of a VHF channel to Champaign, Peoria, New Ulm, Mankato, Waterloo and Cedar Rapids.

Champaign

527. (a) **Census Data.** The population of the City of Champaign is 40,000.

(b) **Counterproposal of Champaign News-Gazette.** Champaign News-Gazette requested the assignment of Channel 3 to Champaign by substituting a UHF channel in Centralia, Illinois, for VHF Channel 2 and making the following changes in the assignments proposed by the Commission in the Third Notice:

City	Third Notice		Proposed Changes	
	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.
Centralia, Illinois	2	32	+	32,59+
Champaign, Illinois		21	3+	21
Springfield, Illinois	3	20,*26	2+	20,*26
Cedar Rapids, Iowa	9	20,*26	2+,9	20,*26
Iowa City, Iowa	*2	24	*12+	24
Mason City, Iowa	12	35	3+	35
Kirksville, Missouri	12	18	3+	18

(c) **Statement in Support of Champaign News-Gazette Counterproposal.** Champaign News-Gazette contended that the cities of Champaign and Urbana, Illinois, are in reality "twin cities" separated only by a boundary street. (The population of Urbana is 23,000.) It was urged that since the Commission proposed the assignment of three channels in the Third Notice for Urbana, VHF Channel 12 and UHF Channels 27 and 33, with Channel 12 reserved for educational purposes, the Champaign counterproposal would assign a first VHF for commercial purposes to the Champaign-Urbana area.

(d) **Oppositions and Conflicting Counterproposals to Champaign News-Gazette Counterproposal.** Oppositions and conflicting counterproposals to the counterproposal of Champaign News-Gazette were filed by the following parties: Quad City Broadcasting Corporation, Moline, Illinois; WIBC, Inc., Indianapolis, Indiana; Davenport, Broadcasting Company, Davenport, Iowa; Black Hawk Broadcasting Company, Waterloo, Iowa; West Central Broadcasting Company, Peoria, Illinois; Northwest Broadcasting Company, Fort Dodge, Iowa,[111] and Peoria Broadcasting Company, Peoria, Illinois. In addition oppositions to the Champaign News-Gazette counterproposal have been filed by WCNT, Inc., Centralia, Illinois; the Balaban and Katz Corporation, Chicago, Illinois; and Sangamon Valley Television Corporation, Springfield, Illinois.

(e) WCNT opposed the Champaign counterproposal to delete VHF Channel 2 from Centralia and to replace it with UHF Channel 59. WCNT argued that the Champaign counterproposal would remove the only VHF channel from the southern part of Illinois whereas operation of Channel 3 at Champaign, it was argued, would merely duplicate that of Channel 12 proposed by the Commission at Urbana. The population of Centralia is 14,000.

(f) Balaban and Katz Corporation of Chicago and Sangamon Valley Television Corporation of Springfield, Illinois, opposed the Champaign counterproposal since it would mean a separation between Springfield and Chicago on Channel 2 of 178 miles. The Commission has revised its rules and standards in this Report to require a minimum co-channel mileage spacing of 170 miles in Zone 1.

Urbana

528. (a) **The Urbana Educational Reservation.** Urbana is one of the communities designated in the record as a "primarily educational center." The University of Illinois, Urbana, supported the reservation of VHF Channel 12 in Urbana for non-commercial educational use and reaffirmed its intention of constructing and operating a television station. The University stated that the General Assembly of the State of Illinois, in May 1951, as part of the biennial budget of the University of Illinois authorized funds specifically for the operation of a television program-producing unit; that the University's fiscal budget for 1952-1953 was in excess of $47,000,000; and that the University's Board of Trustees had accepted a gift of a television transmitter from the General Electric Company for use by the University at such time and place as may be approved by the Commission; that it has successfully engaged in radio broadcasting for about thirty years; and that it has owned and operated Station WILL since 1922 and Station WIUC (FM) since 1941. The University also stated that it has originated hundreds of radio programs for commercial stations and networks and that it had cooperated with commercial stations in originating television programs both from the Urbana-Champaign campus and in Chicago.

(b) **Oppositions and Conflicting Counterproposals to Urbana Re-**

[111] Elsewhere in this report, we have denied the counterproposals of Davenport Broadcasting Corporation, Northwest Broadcasting Company, West Central Broadcasting Corporation and WIBC, Inc., for the reasons therein stated.

servation. Sworn statements were filed opposing the reservation of Channel 12 in Urbana, Illinois, for non-commercial educational use by Columbus Broadcasting System; L. B. Wilson, Inc. (WCKY), Cincinnati, Ohio; and the Peoria Broadcasting Company (WMBD), Peoria, Illinois. In a subsequent sworn statement CBS withdrew certain of its proposals which eliminated the conflict between the University of Illinois and CBS. The proposals of L. B. Wilson and Peoria Broadcasting Company have been considered and denied in another portion of this Report.

(c) **Counterproposal of West Central Broadcasting Company.** West Central Broadcasting Company Broadcasting Company opposed the reservation of VHF Channel 12 in Urbana and requested the assignment of that channel to Peoria by making the following changes in the assignments proposed by the Commission in the Third Notice:

City	Third Notice VHF Channel No.	Third Notice UHF Channel No.	Proposed Changes VHF Channel No.	Proposed Changes UHF Channel No.
Peoria, Illinois	8	*37,43	8,12†	*37,43
Urbana, Illinois	*12	27,33	†	*27†,33
Brookfield, Missouri			12†	
Kirksville, Missouri	12	18	†	18

(d) **Statement in Support of West Central Broadcasting Company Counterproposal.** West Central stated that there are four times as many people in the Peoria metropolitan area than there are in Champaign and Urbana; that there are four full time and two daytime standard broadcast stations in the Peoria metropolitan area and only one full time and two daytime standard broadcast stations in the Peoria metropolitan area and only one full time and two daytime AM stations in Champaign and Urbana. West Central also stated that the proposal affords Brookfield, Missouri, its first television assignment. The population of Brookfield is 6,000. The population of Kirksville is 11,000.

Peoria

529. (a) **Census Data.** The standard metropolitan area of Peoria has a population of 251,000. The City of Peoria has a population of 112,000.

(b) **Counterproposal of Peoria Broadcasting Company.**[112] Peoria Broadcasting Company requested the assignment of Channel 12 to Peoria by making the following changes in the assignments in the Third Notice:

City	Third Notice VHF Channel No.	Third Notice UHF Channel No.	Proposed Changes VHF Channel No.	Proposed Changes UHF Channel No.
Centralia, Illinois	2	32	†	32
Peoria, Illinois	8	*37,43	8,12†	*37,43
Springfield, Illinois	3	20,*26	2†	20,*26
Urbana, Illinois	*12	27,33	*3†	27,33
Cedar Rapids, Iowa	9	20,*26	2†	20,*26
Iowa City, Iowa	*2	24	*9†	24
Kirksville, Missouri	12	18	†	18,63†

(c) **Statement in Support of Peoria Broadcasting Company Counterproposal.** Peoria Broadcasting Company urged that a city the size of Peoria required an additional VHF assignment; that neither Kirksville, Missouri, nor Centralia, Illinois, could support a television station and accordingly the deletion of the proposed VHF assignment from those communities would not result in any actual loss; and that neither Centralia nor Kirksville required the additional coverage that could be obtained from a VHF channel and that UHF was adequate for these communities.

(d) **Oppositions and Conflicting Counterproposals to Peoria Broadcasting Company Counterproposal.** Oppositions and conflicting counterproposals to the counterproposal of Peoria Broadcasting Company were filed by the following parties: WCNT, Inc., Centralia, Illinois; Sangamon Valley Television Corporation, Springfield, Illinois; Balaban and Katz Corp., Chicago, Illinois; Davenport Broadcasting Company, Inc., Davenport, Iowa; Champaign News-Gazette, Champaign, Illinois; The Gazette Company, Cedar Rapids, Iowa; and Quad City Broadcasting Corp., Moline, Illinois.

(e) **The Peoria Educational Reservation.** Illinois State Normal University, Normal, Illinois, supported the reservation of UHF Channel 37 for non-commercial educational use at Peoria. No objections were raised to the reservation. The University stated that it was interested in cooperating with other universities and school systems of the region in a television broadcasting program for the benefit of schools in the region; that it was "financially able to sponsor and participate in educational television"; that it has broadcast educational programs over commercial radio Station WJBC for many years, and that it plans to install a closed-circuit television system for demonstration teaching purposes, educational film distribution, and for training teachers in the effective use of the medium.

New Ulm

530. (a) **Census Data.** The population of the City of New Ulm is 9,000.

(b) **Counterproposal of KNUJ, Inc.** KNUJ, Inc., requested the assignment of Channel 3 to New Ulm by making the following changes in the assignments proposed by the Commission in the Third Notice:

City	Third Notice VHF Channel No.	Third Notice UHF Channel No.	Proposed Changes VHF Channel No.	Proposed Changes UHF Channel No.
New Ulm, Minnesota		43	3†	43
Pierre, South Dakota	6,10	*22	6,11†	*22
Watertown, South Dakota	3	35	10†	35

(c) **Statement in Support of KNUJ, Inc. Counterproposal.** KNUJ, Inc. urged that the assignments requested by it would serve the Commission's priorities of assignment and would also comply with the minimum mileage separations. The counterproposal of KNUJ, Inc. would result in a co-channel separation of 189 miles in Zone II on Channel 11 between Pierre and Sioux Falls, South Dakota.

(d) **Oppositions and Conflicting Counterproposals to KNUJ, Inc. Counterproposal.** Oppositions and conflicting counterproposals to the counterproposal of KNUJ, Inc., were filed by the Gazette Company, Cedar Rapids, the Southern Minnesota Supply Company, Mankato, Minnesota, and the Black Hawk Broadcasting Company, Waterloo, Iowa.

Mankato

531. (a) **Census Data.** The City of Mankato has a population of 19,000.

(b) **Counterproposal of Southern Minnesota Supply Company.** Southern Minnesota Supply Company requested the assignment of Channel 12 to Mankato by making the following changes in the assignments proposed in the Third Notice:

City	Third Notice VHF Channel No.	Third Notice UHF Channel No.	Proposed Changes VHF Channel No.	Proposed Changes UHF Channel No.
Mason City, Iowa	12	35	3†	35
Brainerd, Minnesota	12		10†	
Hibbing, Minnesota	10		12†	
Mankato, Minnesota		15	12†	15
Grand Forks, North Dakota	*2,10		*2,12†	

(c) **Statement in Support of Southern Minnesota Supply Company.** Southern Minnesota Supply Company urged that the assignments requested by it would serve the Commissions's priorities and would also comply with the minimum mileage separations. The counterproposal would result in a co-channel separation of 182 miles in Zone II on Channel 10 between Brainerd and Rochester, Minnesota.

(d) **Oppositions and Conflicting Counterproposals to Southern Minnesota Supply Company Counterproposal.** The Independent Broadcasting Company, Minneapolis, and the Northwest Broadcasting Company, Ford Dodge opposed the counterproposal of Southern Minnesota Supply Company on the grounds of adjacent channel spacing of 67 and 69 miles. No conflict, however, arises under the minimum mileage separations adopted herein. Black Hawk Broadcasting Company, Waterloo, filed a conflicting counterproposal.

Waterloo

532. (a) **Census Data.** The standard metropolitan area of Waterloo has a population of 100,000 and the City of Waterloo has a population of 65,000.

(b) **Counterproposal of Black Hawk Broadcasting Company.** Black Hawk Broadcasting Company requested the assignment of Channel 12 to Waterloo by making the following changes in the assignments proposed in the Third Notice:

City	Third Notice VHF Channel No.	Third Notice UHF Channel No.	Proposed Changes VHF Channel No.	Proposed Changes UHF Channel No.
Mason City, Iowa	12	35	3†	35
Waterloo, Iowa	7	16,*22	7,12†	16,*22
Brookfield, Missouri			12†	
Kirksville, Missouri	12	18	†	18

(c) **Statement in Support of Black Hawk Counterproposal.** It was urged that Waterloo is a rapidly growing city in the center of a rich agricultural area; and that the importance of the city and its need for an additional television channel is evidence by the increasing economic importance of Waterloo.

(d) **Oppositions and Conflicting Counterproposals to Black Hawk Counterproposal.** Oppositions to the counterproposal of Black Hawk Broadcasting Company were filed by the Gazette Company, Cedar Rapids, Iowa, and the Southern Minnesota Supply Company, Mankato, Minnesota.

(e) **The Waterloo Educational Reservation.** The Iowa State Teachers College, Cedar Falls, and the JCET supported the reservation of UHF Channel 22 for non-commercial educational use in Waterloo. The college stated it was the only educational institution in Iowa exclusively concerned with teacher education and therefore it had a special interest in educational television, particularly in the use of television programs directed to the classrooms of the public schools. The college stated that it has prepared a weekly film for telecasting over WOI-TV, Ames, Iowa. The college stated that it was prepared to cooperate with other educational institutions. The College further stated that the assignment of a reserved channel for Waterloo, eight miles from Cedar Falls, would give it the best chance to participate in educational television.

Cedar Rapids

533. (a) **Census Data.** The standard metropolitan area of Cedar Rapids has a population of 104,000. The City of Cedar Rapids has a population of 72,000.

(b) **Counterproposal of The Gazette Company.** The Gazette Company, Cedar Rapids, Iowa, proposed that Channel 12 be assigned to Cedar Rapids by making the following changes in the assign-

[112] The counterproposal of West Central Broadcasting Co., seeking the assignment of a VHF Channel to Peoria by the deletion of VHF Channel 12 in Urbana proposed to be reserved for non-commercial educational use has been considered above in connection with the discussion of the Urbana educational reservation.

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ments proposed in the Third Notice:

City	Third Notice		Proposed Changes	
	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.
Cedar Rapids, Iowa	9	20,*26	9,12†	20,*26
Chariton, Iowa				55†
Mason City, Iowa	12	35	3†	35
Kirksville, Missouri	12	18	†	18,41†
Trenton, Missouri				47†
Reedsburg, Wisconsin				46†

(c) **Statement in Support of Gazette Company Counterproposal.** It was urged that Cedar Rapids is a substantial market with a population which has increased by 16.4% in the 10 year period from 1940, that none of the minimum station separations proposed in the Third Notice would be violated and that a net gain in service would result from a grant of the counterproposal.

(d) **Oppositions and Conflicting Counterproposals to The Gazette Company Counterproposal.** Oppositions to the Cedar Rapids proposal have been filed by the following parties who also filed mutually exclusive proposals: Davenport Broadcasting Company, Davenport, Iowa; KNUJ, Inc., New Ulm, Minnesota; Black Hawk Broadcasting Company, Waterloo, Iowa, and Peoria Broadcasting Company and West Central Broadcasting Company.

(e) **The Cedar Rapids Educational Reservation.** The JCET supported the reservation of Channel 26 in Cedar Rapids for non-commercial educational use. No objections were filed to the proposed reservation.[113]

Conclusions

534. The foregoing counterproposals consist of requests for the assignment of a first VHF channel in Champaign, Mankato and New Ulm, respectively; and a second VHF assignment in Waterloo, Peoria and Cedar Rapids, respectively. The counterproposal of Black Hawk Broadcasting Company (Waterloo), KNUJ, Inc. (New Ulm) and The Gazette Company (Cedar Rapids) are mutually exclusive and are also mutually exclusive with the counterproposals of Champaign News-Gazette (Champaign) and Southern Minnesota Supply Company (Mankato). In addition the counterproposal of Peoria Broadcasting Company (Peoria) is mutually exclusive with the counterproposals of Champaign News-Gazette and The Gazette Company.

535. It is our view, based on the record, that Champaign and Urbana should be considered as a single entity for assignment purposes in view of the proximity and strong identity of interests of these cities. In view of the proposed reservation of Channel 12 in Urbana for non-commercial educational use the counterproposal of Champaign News-Gazette will, accordingly, be considered as a request for the assignment of the second VHF channel to Champaign-Urbana.

Conclusions: Mankato, Peoria, Waterloo, New Ulm, Champaign-Urbana, Cedar Rapids.

536. The counterproposal of Southern Minnesota Supply Company, seeking the assignment of a VHF channel to Mankato must be denied. As indicated below, this counterproposal would result in a co-channel separation of 182 miles in Zone II on Channel 10 between Brainerd and Rochester, Minnesota. This separation is below the minimum of 190 miles for the assignment of co-channel stations in Zone II.

537. With respect to the remaining counterproposals, it is our view that the counterproposal of Champaign News-Gazette is meritorious and, for the reasons set forth below, is to be preferred to the conflicting counterproposals seeking assignment of a VHF channel to Peoria, Waterloo or New Ulm. The cities of Champaign and Urbana have a combined population of 63,000, and in the Third Notice the Commission proposed the assignment of one VHF channel for the city of Urbana and no VHF channels for Champaign. The counterproposal of Champaign News-Gazette would result in the assignment of a second VHF channel to Champaign-Urbana and would, in addition, make possible the assignment of a second VHF channel to Cedar Rapids with a population of 72,000. These assignments would be accomplished by deleting VHF Channel 2 from Centralia which has a population of 14,000. It is our view that the assignment of VHF channels to both Champaign-Urbana and Cedar Rapids warrants this deletion of a VHF channel from Centralia. Accordingly, we are assigning VHF Channels 3 and 12 to Champaign-Urbana and VHF Channels 2 and 9 to Cedar Rapids. In substitution for Channel 2 in Centralia we are assigning Channel 59.

538. It is our view that the assignment of a second VHF channel to both Champaign-Urbana and Cedar Rapids is to be preferred to the assignment of a second VHF channel to Peoria. West Central Broadcasting Co. has requested the assignment of Channel 12 to Peoria by the deletion of Channel 12 from Urbana where it was proposed to be reserved for non-commercial educational use. We believe, however, that the record requires the reservation of a VHF channel for non-commercial educational use in Urbana, a primarily educational center. The record establishes that the University has had considerable experience in broadcasting as the licensee of both an AM and an FM station and that it now intends to establish a non-commercial educational television station in the Urbana area. The University has received a gift of a television transmitter and the General Assembly of the State of Illinois has specifically authorized funds for the operation of a television program broadcasting unit. As indicated above, West Central Broadcast Co. did not propose the substitution of a VHF channel in Urbana for Channel 12 which it requested be deleted from that community. It is our view, on the basis of the record, that a VHF channel should be retained in Urbana for non-commercial educational use. Accordingly, the counterproposal of West Central Broadcasting Co. is denied. We have by our decision herein added the assignment of VHF Channel 3 to Champaign-Urbana. It should be pointed out that if Channel 3 were reserved in Champaign-Urbana for non-commercial educational use in lieu of Channel 12 as proposed and Channel 12 were assigned to Peoria, the assignment of an additional VHF channel to Cedar Rapids would be precluded. As noted above, we have preferred the assignment of a VHF channel to Champaign-Urbana and Cedar Rapids over the assignment of a VHF channel to Peoria.

539. The counterproposal of Peoria Broadcasting Company seeking the assignment of a second VHF channel in Peoria would be accomplished by the deletion of the VHF channels assigned to Kirksville and Centralia. This plan would also assign a VHF channel to Brookfield. It is our view, however, that the assignment of a second VHF channel to both Champaign-Urbana and Cedar Rapids, at the expense of deleting only one channel from Centralia, is to be preferred to the assignment of a second VHF channel to Peoria and a first VHF channel to Brookfield which would be accomplished by deleting VHF channels from both Centralia and Kirksville. It is to be pointed out that Brookfield has a population of only 6,000 persons and no request has been filed by any party from that community for the assignment of a channel.

540. It is also our view that the counterproposal of Champaign News-Gazette is to be preferred to the counterproposal of Black Hawk Broadcasting Company. Although Black Hawk Broadcasting Company would, in addition to assigning a second VHF channel to Waterloo, assign a first VHF channel to Brookfield, this would be accomplished by deleting the sole VHF channel assigned to Kirksville. It is our view that the assignment of a second VHF channel to both Champaign-Urbana and Cedar Rapids is to be preferred to the assignment of a second VHF channel to Waterloo and a first VHF channel to Brookfield, a city of 6,000.

541. It is also our view that the counterproposal of Champaign News-Gazette is to be preferred to the counterproposal of KNUJ, Inc., seeking the assignment of a VHF channel to New Ulm with a population of approximately 9,000 persons. As indicated above the counterproposal of KNUJ, Inc., would result in a co-channel separation of 189 miles in Zone II on Channel 11 between Pierre and Sioux Falls, South Dakota. This separation is below the minimum of 190 miles for the assignment of co-channel station in Zone II. Moreover, it is our view that the assignment of a second channel to both Champaign-Urbana and Cedar Rapids is to be preferred to the assignment of a first channel to New Ulm, especially in view of the relative sizes of these communities.

542. The Gazette Company counterproposal requested the assignment of a second VHF channel, Channel 12, to Cedar Rapids. This counterproposal, however, is in conflict with the counterproposal of Champaign News-Gazette. However, our decision herein provides for the additional assignment of VHF Channel 2 to Cedar Rapids. Accordingly, the Gazette Company counterproposal need not be considered further.

543. In view of the foregoing, the counterproposals of Black Hawk Broadcasting Company, KNUJ, Inc., The Gazette Company, Southern Minnesota Supply Company, West Central Broadcasting Co. and Peoria Broadcasting Company are denied; and the counterproposal of Champaign News-Gazette is granted.

544. We are of the view, however, that the assignment of an additional UHF channel to Peoria is warranted. Channel 19 in Peoria would meet all required mileage separations for assignments in this zone. Accordingly, Channel 19 will be assigned to Peoria as an additional assignment.

Conclusions: The Peoria, Waterloo,

Cedar Rapids Educational Reservations

545. On the basis of the record, the reservation of UHF Channels *37, *22, and *26 in Peoria, Waterloo and Cedar Rapids, respectively, are finalized.

Final Assignments and Reservations

546. The following assignments and reservations are adopted:[114]

City	VHF Channel No.	UHF Channel No.
Centralia, Illinois		32,59
Champaign-Urbana, Illinois	3,*12	21,27,33
Peoria, Illinois	8	19,*37,4
Springfield, Illinois	2	20,*26
Cedar Rapids, Iowa	2,9	20,*26
Iowa City, Iowa	*12	24
Mason City, Iowa	3	35
Waterloo, Iowa	7	16,*22
Mankato, Minnesota		15
New Ulm, Minn.		43
Kirksville, Missouri	3	18

AMES, FORT DODGE, AND DES MOINES, IOWA

547. (a) **Proposed Assignments and Reservations.** In the Third Notice the Commission proposed the following assignments and reservation:

City	VHF Channel No.	UHF Channel No.
Ames	5	25
Des Moines	8,*11,13	17,23
Fort Dodge		21

(b) **Census Data.** The standard metropolitan area of Des Moines has a population of 226,000 and the city of Des Moines has a population of 178,000. The City of Fort Dodge has a population of 25,000. The City of Ames has a population of 23,000.

(c) **Existing Stations.** The Iowa State College of Agriculture and Mechanical Arts is licensed for the operation of Station WOI-TV at Ames on Channel 4. The licensee was ordered to show cause why the license of WOI-TV should not be modified to specify operation on Channel 5. Iowa State stated it had no objection to the move from Channel 4 to Channel 5.

(d) **Counterproposal of Northwest Broadcasting Company.** The Northwest Broadcasting Company proposed the additional assignment of Channel 4 to Fort Dodge by making the following changes in

[113] Coe College, Cedar Rapids, in its comment on June 6, 1951, requested the reservation of VHF Channel 9 for non-commercial educational use; thereafter the college advised the JCET that it was withdrawing its request in favor of the reservation of a UHF channel for possible future educational use by the college.

[114] The educational reservations for Springfield, Illinois, and Iowa City, Iowa, are discussed elsewhere.

the assignments proposed in the Third Notice:

City	Third Notice		Proposed Changes	
	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.
Fort Dodge, Iowa		21	4†	21
Sioux City, Iowa	4,9	*30,36	2†,9	*30,36
Mitchell, South Dakota	5	20	4†	20
Vermillion, South Dakota	*2	41	*5†	41

(e) Statement in Support of Northwest Broadcasting Company Counterproposal. The Northwest Broadcasting Company urged that the geographical location and importance of Fort Dodge as the dominant city in a large area justified the assignment of two channels, one VHF and one UHF to that city. It was also urged that the Commission's proposed assignments did not provide an equitable distribution of television facilities since cities of comparable size were assigned more channels than were assigned to Dodge.

(f) The Northwest Broadcasting Company counterproposal would result in the following co-channel separation in Zone II:

Channel	Cities	Mileage
5	Vermillion, S. D.-Hastings, Nebr.	170
5	Vermillion, S. D.-Ames, Ia. (WOI-TV)	175
4	Fort Dodge, Ia.-Minneapolis, Minn.	176

(g) Opposition and Conflicting Counterproposals to the Northwest Broadcasting Company Counterproposal. Oppositions and conflicting counterproposals were filed by the following parties: Gazette Company, Cedar Rapids; Black Hawk Broadcasting Company, Waterloo, Iowa; Champaign News-Gazette, Inc., Champaign, Ill.; Southern Minnesota Supply Company, Mankato, Minnesota; Quad City Broadcasting Company, Moline, Ill., Independent Broadcasting Company, DesMoines, Ia.; Mid-Continent Radio Television, Inc., Minneapolis, Minn.; and Iowa State College, Ames, Iowa.

(h) The Des Moines Educational Reservation. The Independent School District of Des Moines and Drake University supported the reservation of VHF Channel 11 at Des Moines for non-commercial educational use. The City Council of Des Moines, Iowa, and other civic and educational parties also supported the reservation. The Independent School District urged that a reservation was necessary in order that educational institutions and other interested organizations have sufficient time to develop a program for non-commercial educational use of television in the area.

(i) Counterproposals of Cowles Broadcasting Company, Central Broadcasting Company, and Murphy Broadcasting Company. Cowles Broadcasting Company, Central Broadcasting Company, and the Murphy Broadcasting Company,[115] proposed to increase the number of commercial VHF channel assignments in Des Moines, by removing the reservation of VHF Channel 11 for non-commercial educational use and by proposing that VHF Channel 5 at Ames, Iowa, be assigned to WOI-TV and be classified as a channel reserved for non-commercial educational use instead of for commercial use as follows:

City	Third Notice		Proposed Changes	
	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.
Ames, Iowa	5	25	*5	25
Des Moines, Iowa	8,*11,13	17,23	8,11†,13	17,23

(j) Statement in Support of Cowles Broadcasting Company, Central Broadcasting Company and Murphy Broadcasting Company Counterproposals. Cowles, Central and Murphy Broadcasting Companies urged that WOI-TV provide educational service to the Des Moines area; that the proposed changes in classification of WOI-TV to an educational non-commercial station would meet the needs of Des Moines for non-commercial educational television; that WOI-TV in securing its license represented it would be a non-commercial station; and that "it would be a waste of television channels to assign two channels for use in the operation of educational television stations, one at Des Moines, Iowa, and the other at Ames, Iowa."

(k) Oppositions to Cowles, Central and Murphy Counterproposals. Iowa State College,[116] and Davenport Broadcasting Company opposed the counterproposals of Cowles, Central and Murphy.

(l) Counterproposal of the Davenport Broadcasting Company, Inc., Davenport, Iowa. The Davenport Broadcasting Company, Inc., proposed the additional assignment of a VHF channel to Atalissa,[117] by deleting Channel *11 at Des Moines and by making the following changes in the assignments proposed in the Third Notice:

City	Third Notice		Counterproposal	
	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.
Atalissa, Iowa			2†	
Des Moines, Iowa	8,*11,13	17,23	8, †, 13	17,23
Iowa City, Iowa	*2	24	*11†	24

(m) Statement in Support of Davenport Broadcasting Company Counterproposal. The Davenport Broadcasting Company urged that the size, population, and economic importance of Davenport-Rock Island-Moline warranted an additional VHF assignment and that the deletion of reserved Channel 11 from Des Moines, "would eliminate wasteful overlap between educational service now being rendered by Iowa State College of Agriculture and Mechanical Arts, (WOI-TV), Ames, Iowa, and the proposed assignment of Channel 11 in Des Moines for educational use."

(n) Oppositions to the Davenport Broadcasting Company Counterproposal. Cowles, Central, Independent, Murphy, and Iowa State College opposed the Davenport Broadcasting counterproposal.

(o) Counterproposal of Independent Broadcasting Company. The Independent Broadcasting Company proposed the additional assignment of Channel 4 to Des Moines by making the following changes in the assignments proposed in the Third Notice:

City	Third Notice		Proposed Changes	
	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.
Des Moines, Iowa	8,*11,13	17,23	4†,8,11,13	*17†,23 (or 23*)
Sioux City, Iowa	4,9	*30,36	2†,9	*30,36
Vermillion, South Dakota	*2	41	*4†	41

(p) Statement in Support of Independent Broadcasting Company Counterproposal. Independent Broadcasting Company urged that Channel 4 could be assigned to Des Moines without adversely affecting any existing TV broadcasting station or any assignment proposed by the Commission; that the Commission's priorities would not be affected with the exception of priority 5; and that an additional VHF service would be provided to a substantial area and population.

(q) The counterproposal of Independent Broadcasting Company would result in the following co-channel separation in Zones I and II:

Channel	City	Mileage	Zone
4	DesMoines-Rock Island, Ia. (WHBF-TV)	158	I
4	Des Moines-Kansas City, Mo.	180	II
4	Des Moines-Vermillion, S. D.	182	II

(r) Oppositions and Conflicting Counterproposals to Independent Broadcasting Company Counterproposal. Rock Island Broadcasting Company opposed Independent counterproposal, and urged that the counterproposal should be denied for the reason that it would create the interference which the Commission has attempted to eliminate in the Third Notice. It was pointed out that WHBF-TV, Rock Island and WOI-TV, Ames, Iowa, now operate on Channel 4. Because of the close spacings of these stations and the resultant interference the Commission in the Third Notice ordered WOI-TV to show cause why its assignment should not be changed to Channel 5. It was urged that since Ames and Des Moines are the same distance from Rock Island, the assignment of Channel 4 to Des Moines would result in the same interference situation which the Commission's Order to Show Cause to WOI-TV was designated to eliminate. The counterproposals of Northwest Broadcasting Company and Davenport Broadcasting Company are mutually exclusive with that of Independent Broadcasting Company.

Conclusions: Des Moines Educational Reservation

548. We believe on the basis of the record that we must deny the request to remove the educational reservation in Des Moines from Channel 11. In light of the evidence introduced by the educational interests in Des Moines, we believe that the educational reservation in that city should be finalized.

549. The request that we change the character of the Ames assignment can not, on the basis of the record, be granted. Iowa State College in securing a license did not secure a non-commercial license requiring it to broadcast non-commercial programs but secured a license giving it the responsibility to determine the commercial or non-commercial character of its programs.[118] We do not believe, on the basis of this record, that we should issue a show cause order which would require WOI-TV to change its classification and become a non-commercial station. In the absence of compelling reasons, we do not believe that educational institutions who secure commercial licenses should be required to change the character of their operation. To adopt a contrary policy would be to discourage educational institutions which do not prefer to operate a fully non-commercial station from entering the television field. Accordingly, we must deny the request to change the classification of the Ames assignment.

550. Moreover, from the record it appears that Des Moines and its immediate surrounding vicinity is the major economic, cultural and social center of the State of Iowa. The fact that different educational programs may be simultaneously available in the same area from WOI-TV and a non-commercial educational television station in Des Moines is not necessarily undesirable since it increases the number of program choices as does the presence of several stations in a given city. In addition, it is shown in the engineering statement in the Central Broadcasting filing that Station WOI-TV operating with the maximum power

[115] The Independent Broadcasting Company, as part of a counterproposal to assign an additional VHF channel to Des Moines, also urged the change in reservation from VHF Channel 11 to a UHF channel in Des Moines.

[116] Central Broadcasting Company filed a Motion to Strike the statement of Iowa State College of Agriculture and Mechanical Arts on the grounds that the statement signed by counsel was not sworn to. The Iowa State College of Agriculture and Mechanic Arts filed an opposition to the Motion to Strike saying that the document was intended as a brief under the meaning of Paragraph 5(f) of the Order of Hearing Procedure of July 25, 1951; that it was filed early on September 24, 1951, rather than on October 29, 1951, the last filing date; that the brief is in support of an engineering statement which has been sworn to and that, therefore, since it is a brief under the meaning of Paragraph 5(f) it need not be sworn to. Attached to their opposition to the Motion to Strike, the attorneys for the Iowa State College of Agriculture and Mechanical Arts filed an amendment to "Statement on Behalf of Iowa State College of Agriculture and Mechanical Arts in Support of Commission Allocation Plan" to delete the word "Statement" where it appears in the caption of said brief and wherever it appears capitalized in the body of said brief and substitute in lieu thereof the word "Brief." In view of the amendment submitted by the College the Motion to Strike is DENIED. The "Statement" objected to has been considered only as a Brief.

[117] Atalissa, a community of 240 persons, is 50 miles from Davenport. The counterproposal proposed a transmitter site at Durant, approximately 30 miles from Davenport.

contemplated by the Commission's proposal and operating with its presently licensed antenna height could provide Grade A service to but 45% of the City of Des Moines.

551. In view of the foregoing, the counterproposals of Cowles Broadcasting Company, Central Broadcasting Company, Murphy Broadcasting Company, and Davenport Broadcasting Company, are denied. Furthermore, with respect to the counterproposal of Davenport Broadcasting Company, we do not believe the assignment of a VHF channel to the city of Atalissa by the deletion of a VHF assignment in Des Moines, a much larger city, is warranted.

Conclusions: Additional VHF Assignment in Fort Dodge and Des Moines

552. The Northwest Broadcasting Company counterproposal would result in three co-channel separations below the 190 mile minimum for Zone II. Channel 5 would be asigned at Vermillion, 170 miles from Hastings and 175 miles from Station WOI-TV at Ames; and Channel 4 would be assigned to Fort Dodge, 176 miles from Minneapolis. Accordingly, the Northwest Broadcasting Company counterproposal is denied.

553. The Independent Broadcasting Company counterproposal would result in one co-channel separation below the 170-mile minimum for assignments in Zone I and two co-channel separations below the 190-mile minimum for Zone II. Channel 4 would be assigned to Des Moines, 158 miles from Station WHBF-TV in Rock Island in Zone 1 and 180 and 182 miles, respectively, from Kansas City, Missouri and Vermillion, both in Zone II. Accordingly, the Independent Broadcasting Company counterproposal is denied.

Conclusions: Show Cause Order

554. In view of the foregoing, an appropriate authorization will be issued to Iowa State College to specify operation of WOI-TV on Channel 5.

Final Assignments and Reservation

555. The following assignments and reservation are adopted:

City	VHF Channel No.	UHF Channel No.
Ames	5	25
Des Moines	8,*11,13	17,23
Fort Dodge		21

KEOKUK, IOWA; QUINCY, ILLINOIS; AND HANNIBAL, MISSOURI

556. (a) **Proposed Assignments.** In the Third Notice the Commission proposed the following assignments:

City	VHF Channel No.	UHF Channel No.
Keokuk, Iowa		44
Quincy, Illinois	10	21
Hannibal, Missouri	7	27

(b) **Census Data.** The population of Keokuk, Iowa, is 16,000. The population of Quincy, Illinois, is 41,000. The population of Hannibal, Missouri, is 21,000.

(c) **Counterproposal of Keokuk Broadcasting Company.** Keokuk Broadcasting Company requested that Channel 10 be assigned to Keokuk. The assignment of Channel 10 to Keokuk would be accomplished by the deletion of Channel 10 from Quincy, Illinois, the substitution of Channel 7 in Quincy and the deletion of Channel 7 from Hannibal, Mo., as follows:

City	Third Notice		Proposed Changes	
	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.
Keokuk, Iowa		44	10†	44
Quincy, Illinois	10	21	7†	21
Hannibal, Mo.	7	27	†	27

(d) **Statement in Support of Keokuk Broadcasting Company Counterproposal.** Keokuk Broadcasting Company urged that the deletion of Channel 7 from Hannibal would not deprive that city of television service because of the assignment of UHF Channel 27 to Hannibal. It was also asserted that Hannibal would receive Grade A service from the VHF assignment at Quincy, 15 miles from Hannibal. Further, it is urged that the assignment of Channel 10 to Keokuk would provide a substantial number of persons with a first VHF service. It was also contended that the assignment of Channel 10 to Keokuk and the assignment of Channel 7 to Quincy comply in all respects with the standards adopted herein. Finally, it was urged that a more extensive coverage would be rendered by a station located in Keokuk on Channel 10 than would be rendered by Channel 7 at either Quincy or Hannibal.

(e) **Opposition to Keokuk Broadcasting Company Counterproposal.** The Courier Post Publishing Company, Hannibal, Missouri, opposed the Keokuk counterproposal urging that Hannibal, a city of 20,540 persons is a separate competitive market from Quincy which has a population of 41,402 persons, and that a grant of the counterproposal would deprive Hannibal of its only VHF assignment. Further, it was pointed out that Hannibal and Quincy are located in separate Counties and States and each is also considered the principal city of separate retail trading areas. It was also urged that under the Commission's proposed assignments the City of Keokuk would receive two Grade A services from Keokuk and Fort Madison and that 70% of the City of Keokuk would receive a third service from Channel 10 proposed for Quincy.

Conclusions

557. It is our view that, on the basis of the record, the counterproposal of Keokuk Broadcasting Company should be denied. A grant of this counterproposal would deprive the City of Hannibal, a larger city than Keokuk, of its sole VHF channel in order to add a first VHF channel to Keokuk and a second assignment to that city. Accordingly, the counterproposal of Keokuk Broadcasting Company is denied.

Final Assignments

558. The following assignments are adopted:

City	VHF Channel No.	UHF Channel No.
Keokuk, Iowa		44
Quincy, Illinois	10	21
Hannibal, Missouri	7	27

DUBUQUE, IOWA

559. (a) **Proposed Assignments.** In the Third Notice the Commission proposed the following assignments to Dubuque: UHF Channels 56 and 62.

(b) **Census Data.** The City of Dubuque has a population of 50,000.

(c) **Counterproposal of The Telegraph Herald.** The Telegraph Herald, Dubuque, Iowa, proposed that VHF Channels 5 and 11 be assigned to Dubuque with less than maximum power to protect other co-channel and adjacent channel stations. This counterproposal would require no other changes in the proposed assignments in the Third Notice.

(d) **Statement in Support of Telegraph Herald Counterproposal.** The Telegraph Herald urged that the operation of UHF stations in Dubuque would present serious economic obstacles. It was urged that operation on Channels 5 and 11 with powers below that proposed in the Third Notice would afford protection to co-channel stations to the same extent as stations with maximum facilities operating at the required minimum spacings. Specifically, it was urged that powers of 46.7 kw on Channel 5 and 87 kw on Channel 11 be authorized for stations in Dubuque. It was further urged that a grant of the counterproposal would provide a first VHF service to a substantial area.

(e) The counterproposal would result in the following co-channel separations in Zone I below the 170-mile minimum:

Channel 5 Dubuque, Ia.-Chicago (WNBQ), 162 miles.
Channel 11 Dubuque, Ia.-Chicago, 161 miles.

The counterproposal, in addition, would result in the following co-channel separations in Zone II below the 190-mile minimum:

Channel 5 Dubuque, Ia.-Ames, Ia. (WOI-TV), 159 miles.
Channel 11 Dubuque, Ia.-Des Moines, Ia., 164 miles.

(f) **Oppositions and Conflicting Counterproposals to Telegraph Herald Counterproposal.** Oppositions and conflicting counterproposals to the counterproposal of The Telegraph Herald were filed by the following parties: Central Broadcasting Co., Davenport, Iowa, The National Broadcasting Company, Chicago, Illinois, the Johnson-Kennedy Radio Corporation, Chicago, Illinois; Iowa State College, Ames, Iowa; and the Davenport Broadcasting Company, Davenport, Iowa.

Conclusions

560. Elsewhere in this Report the Commission has set forth the basis for its decision not to create a special class of stations authorized to operate with reduced power at reduced separations. In view of that decision and for the reasons therein stated the request of The Telegraph Herald is denied.

Final Assignments

561. The assignment of UHF Channels 56 and 62 in Dubuque, Iowa, are adopted.

SIOUX CITY, IOWA EDUCATIONAL RESERVATION

562. **Proposed Reservation.** In the Third Notice the Commission proposed the reservation of Channel 30 in Sioux City for non-commercial educational use.

563. The JCET, the Mayor of Sioux City, the City Council and other local educational groups, supported the reservation of Channel 30 in Sioux City. No party objected to the reservation.

Conclusions

564. In view of the foregoing, the reservation of Channel 30 in Sioux City for non-commercial educational use is finalized.

IOWA CITY, IOWA EDUCATIONAL RESERVATION

565. (a) **Proposed Reservation.** In the Third Notice the Commission proposed the reservation of Channel 2 in Iowa City for non-commercial educational use.

(b) The State University of Iowa supported the reservation of VHF Channel 2 in Iowa City for non-commercial educational television use. The University stated that it has engaged in non-commercial broadcasting since 19[illegible] that a separate building has been constructed for radio broadcasting and the annual operation budget for its broadcast activities was $50,000. The University stated that from 1932 to 1938 the University regularly scheduled television programs from an experimentally licensed transmitter and that it has for the past two years, organized and presented weekly programs from Station WOC-TV, Davenport, Iowa. The University further stated that television facilities are available and that it has begun construction of a Communications Center and that it has a completely outfitted motion picture production laboratory including ten motion picture cameras. The University submitted a detailed listing of suggested program material for use on the proposed educational television station. No one has objected to the reservation of VHF Channel 2.

(c) Quad - City Broadcasting Corp., Moline, Illinois, Davenport Broadcasting Company,[119] Davenport, Iowa, and Champaign News-Gazette, Inc., Champaign, Illinois proposed the reservation of a VHF channel other than VHF Channel 2 for Iowa City in connection with counterproposals for additional VHF assignments in their respective cities.[120] The Commission elsewhere in this Report granted the request made by Campaign News-Gazette, Inc., which proposed as part of its over-all plan the reservation of VHF Channel 12 in lieu of the proposed reservation of VHF Channel 2 in Iowa City.

Conclusions

566. On the basis of the foregoing and the record, the reservation of Channel 12 in Iowa City for non-commercial use is finalized.

[115]The allegations concerning the representations with respect to its programming are irrelevant to these proceedings.

[119]Elsewhere in this Report the Commission denied the counterproposals of Quad-City Broadcasting Corp. and Davenport Broadcasting Company.

[120]The State University of Iowa on October 8, 1951, filed with the Commission a Motion to Strike portions of the statements of Hugh R. Norman and Walter F. Kean filed on behalf of Davenport Broadcasting Company, Incorporated. In these statements, affiants introduce as a new proposal the use of a UHF channel for educational use at Iowa City whereas the initial counterproposal of May 7, 1951, did not contain this proposal. Paragraphs 5 and 6 of the Order of Hearing Procedure of July 25, 1951, clearly indicate that the Commission will not consider any sworn statements which are not in support of the initial pleadings. The Motion to Strike is therefore GRANTED. With respect to the sworn statements filed on behalf of Davenport Broadcasting Company, Incorporated, the Commission has not considered them for the reasons given above, as evidence properly before it, the evidence relating to this new proposal. The Commission has, however, considered the evidence contained therein which is in support of its counterproposal in this proceeding.

ST. JOSEPH, ST. LOUIS AND SPRINGFIELD, MISSOURI: EDUCATIONAL RESERVATION

567. (a) **Proposed Reservations.** In the Third Notice the Commission proposed the following reservations for non-commercial use:

City	VHF Channel No.	UHF Channel No.
St. Joseph, Missouri		*36
St. Louis, Missouri	*9	
Springfield, Missouri		*26

(b) **St. Joseph Educational Reservation.** The School District of St. Joseph supported the reservation of Channel 36 in St. Joseph and submitted a resolution of the Board of Education requesting that a television channel be reserved for this city. The JCET, Northeast Missouri State College, Maryville, and St. Benedict's College, Atchison, Kansas, also supported the reservation. No objections to the reservation were filed.

(c) **St. Louis Educational Reservation.** The Mayor's Committee on Educational Television and the Board of Education of the City of St. Louis and JCET supported the reservation of Channel 9 to St. Louis. No objections to the reservation were filed.

(d) **Springfield Educational Reservation.** The Board of Education of the Springfield, Missouri Public Schools, Reorganized Green County District No. 12, Drury College, and Southwest Missouri State College and JCET supported the reservation of Channel 26 to Springfield. No objections to the reservation were filed.

Conclusions

568. In view of the record, the reservations of the foregoing channels for non-commercial educational use are finalized.

Final Reservations

569. The following reservations are adopted:

City	VHF Channel No.	UHF Channel No.
St. Joseph, Missouri		*36
St. Louis, Missouri	*9	
Springfield, Missouri		*26

MINNEAPOLIS-ST. PAUL, MINNESOTA: EDUCATIONAL RESERVATION

570. (a) **Proposed Reservations.** In the Third Notice the Commission proposed the reservation of VHF Channel 2 in Minneapolis-St. Paul for non-commercial educational use.

(b) **Minneapolis-St. Paul Educational Reservation.** The University of Minnesota, the Minneapolis Public Schools, the College of St. Catherine, the City of St. Paul, the Saint Paul Public Library and the JCET supported the reservation. These institutions expressed their willingness to cooperate with other educational institutions in the area with respect to non-commercial educational television. No objections were filed to the proposed reservation.

Conclusions

571. On the basis of the record, the reservation of Channel 2 in Minneapolis-St. Paul for non-commercial educational use is finalized.

GREEN BAY AND MILWAUKEE, WISCONSIN

572. (a) **Proposed Assignments and Reservation.** In the Third Notice the Commission proposed the following assignments and reservation:

City	VHF Channel No.	UHF Channel No.
Green Bay	6	
Milwaukee	4,*10,12	19,25,31

(b) **Census Data.** The standard metropolitan area of Milwaukee has a population of 871,000. The City of Milwaukee has a population of 637,000. The standard metropolitan area of Green Bay has a population of 98,000. The City of Green Bay has a population of 53,000.

(c) **Existing Station.** The Journal Company is licensed for the operation of Station WTMJ-TV in Milwaukee on Channel 3. The licensee was ordered to show cause why the license of WTMJ-TV should not be modified to specify Channel 4 in lieu of Channel 3. The licensee did not file any opposition to the show cause order.

(d) **Counterproposal of Green Bay Newspaper Company.** The Green Bay Newspaper Company requested the additional assignment of VHF Channel 2 to Green Bay. No other changes in the assignments proposed in the Third Notice were requested.

(e) **Statement in Support of Green Bay Newspaper Company Counterproposal.** Green Bay Newspaper Company urged that assignment of Channel 2 to Green Bay would provide a fair, efficient and equitable distribution of television facilities; that the assignment of Channel 2 to Green Bay conforms fully with the Commission's standards and serves the priorities set forth in the Third Notice; and that the additional assignment of Channel 2 could be obtained without depriving any city of a proposed assignment under the Commission's Third Notice. Further, it was asserted that there are no cities or metropolitan areas to the west, north or east of Green Bay within approximately 200 miles which have a population greater than Green Bay; that the nearest city larger than Green Bay is Milwaukee, approximately 100 miles to the south; and that the Green Bay community is the second largest distribution and jobbing outlet and the third largest retail center in Wisconsin. The distance between Green Bay and Chicago, the nearest city where Channel 2 is proposed to be assigned, is 182 miles. The nearest adjacent channel assignment proposed is Channel 3 to Madison, Wisconsin, 121 miles from Green Bay.

(f) **Joint Counterproposal of the Wisconsin Broadcasting System, Inc. and Hearst Radio, Inc. and the Counterproposal of Milwaukee Broadcasting Company.** The Wisconsin Broadcasting System, Inc., and Hearst Radio, Inc., filed a joint counterproposal and the Milwaukee Broadcasting Company filed an identical counterproposal requesting the assignment of Channel 6 to Milwaukee by deleting it from Green Bay and substituting Channel 2 to replace Channel 6 in Green Bay as follows:

City	Third Notice VHF Channel No.	Third Notice UHF Channel No.	Proposed Changes VHF Channel No.	Proposed Changes UHF Channel No.
Green Bay	6		2+	
Milwaukee	4,*10,12	19,25,31	4,6+,10,12	*,+,121,19,25,31

(g) The assignment of Channel 6 in Milwaukee would result in a 167 mile co-channel separation between Milwaukee and Station WOC-TV at Davenport, Iowa in Zone I.

(h) **Statement in Support of Wisconsin Broadcasting System, Inc. and Hearst Radio, Inc. and Milwaukee Broadcasting Company Counterproposals.** It was urged that Section 3.606 of the Commission's Rules assign Channels 3, 6, 8 and 10 to Milwaukee; that under the Third Notice, however, the Commission proposed to assign VHF Channels 4, 10 and 12 to Milwaukee with Channel 10 reserved for non-commercial educational use; and that the result under the Commission's proposed assignments is to leave available for applicants only Channels 12, 19, 25 and 31.[122] It was urged that the restoration of Channel 6 in Milwaukee and the assignment of Channel 2 to Green Bay would satisfy the requirements of the Commission's rules and standards in relation to the assignments proposed for other communities under the Third Notice. It was also contended that the assignments proposed in the Third Notice are inadequate to meet the pressing and immediate needs for competitive commercial television service; and that the assignment to Milwaukee of only two VHF channels for commercial use will extend for an additional and considerable period of time the adverse effects upon competition which presently exist in Milwaukee. Further, it was stated that there are 258,000 VHF receivers in the hands of the public in Milwaukee. Finally, it was urged that because of the population, size and economic importance of Milwaukee, it is one of the key economic links in every chain of television broadcast stations for network service.

(i) **Opposition to Wisconsin Broadcasting System, Inc. and Hearst Radio, Inc. and Milwaukee Broadcasting Company counterproposals.** Oppositions to the Milwaukee counterproposal[123] have been filed by WJIM, Inc., Lansing, Michigan, and Central Broadcasting Company, Davenport, Iowa, on the grounds of interference to existing Stations WJIM-TV and WOC-TV, respectively. It was urged that the assignment of Channel 6 to Milwaukee would result in interference to these existing stations.

(j) Station WOC-TV is presently operating on Channel 5 in Davenport and the Commission has proposed that WOC-TV be shifted to Channel 6. WJIM-TV is licensed to operate on Channel 6 in Lansing, Michigan, and the Commission has proposed no change in the licensed frequency of that station. The separations between the City of Milwaukee and the cities of Lansing and Davenport are 171 and 170 miles respectively. The separations between the City of Milwaukee and the present transmitter sites of WOC-TV and WJIM-TV are 167 and 173 miles, respectively. It was asserted by the Milwaukee parties that it would be possible to locate a station in Milwaukee on Channel 6 which would meet the minimum required co-channel separation between transmitters of 170 miles. It was claimed by Central Broadcasting Company that although the Commission proposed to move WOC-TV from Channel 5 to Channel 6 in order to eliminate interference, the counterproposal of the Milwaukee parties would result in the interference situation which the Commission's proposal would avoid.

(k) **The Milwaukee Educational Reservation.** The Milwaukee Educator's Committee on Television and the Milwaukee Vocational and Adult Schools supported the reservation of VHF Channel 10 at Milwaukee, Wisconsin. The Milwaukee Educator's Committee on Television comprises the Mayor, City of Milwaukee, Wisconsin State College, University of Wisconsin (Milwaukee Extension Division), Milwaukee Public Schools and Milwaukee Vocational and Adult Schools. Numerous civic, religious, labor and business organizations and the State Radio Council of Wisconsin also supported the reservation. The Board of Vocational and Adult Education of Milwaukee passed a resolution supporting the reservation and instructed the director of the Milwaukee Vocational and Adult Schools to file a statement with the Commission which contained the following points: (1) The Board was prepared to cooperate in developing local educational television programs; (2) the Director was authorized to make a survey of all pertinent facts which relate to the proposed television station; (3) the Board was prepared on the basis of favorable and conclusive findings to assume the responsibility for the construction of such a station, provided that it was assured by the cooperating bodies, or by the city, that costs of operation would be equitably shared according to a formula to be agreed upon before construction was ordered. Pending the outcome of the survey the Board stated that it "will very probably earmark a sum sufficiently large to begin such work as can be undertaken and completed in the next fiscal year, provided the Federal Communications Commission thinks well of the proposal of the Board to build a station on its property in Milwaukee and will reserve the use of VHF Channel 10 for the proposed station." The Milwaukee Educator's Committee on Television submitted a detailed listing of proposed television programs designed for class room use and adult education. The Milwaukee Vocational and Adult Schools stated it could "legally raise all the funds needed to build a television station."

(l) **Oppositions to the Educational Reservation.** Wisconsin Broadcasting System, Inc., and Hearst Radio, Inc. proposed to increase the number of commercial VHF channels in Milwaukee from two to four by proposing to add

[121] Channel not specified.

[122] At the "freeze" date, one VHF channel had been assigned (WTMJ-TV) and Wisconsin Broadcasting, Hearst Radio, and Milwaukee Broadcasting Company (WEMP), were in hearing and had petitioned the Commission for immediate grant of their non-competing applications for the remaining three VHF channels.

[123] Music Broadcasting Company, Grand Rapids, Michigan, opposed the Milwaukee counterproposal since it conflicted with its counterproposal. Elsewhere in this decision we have denied the counterproposal of Music Broadcasting Company for the reasons there stated.

VHF Channel 6 and by proposing to shift the proposed reservation to the UHF. The parties stated that substantial public interest in having immediate and effective competition among local and network services required the recommended changes. Hearst Radio stated the Board of Vocational and Adult Education was not in a position, financially or otherwise, to construct and operate an educational television station. Hearst Radio stated further that if Channel 10 were reserved there was no prospect of any additional VHF service in Milwaukee for an indefinite, and in any event a considerable period of time. It was contended that competition for the one remaining VHF channel would prevent the possibility of an additional VHF station for some time to come. Hearst Radio stated that the educators did not claim they would be unduly prejudiced by reason of the fact that there are no UHF receivers in the Milwaukee area. It was claimed that the Board of Vocational and Adult Education would not have to pioneer in the UHF field since a commercial applicant has applied for a UHF channel, and by the time the Board was ready to build and operate an educational station, there would be a substantial number of UHF receivers in the area.

Conclusions: Milwaukee Educational Reservation

573. We do not believe, on the basis of the record, that the reservation of VHF Channel 10 should be changed. The educational interests in Milwaukee have shown a strong interest in establishing a non-commercial educational station and they have presented a concrete plan for the establishment of such a station. The Milwaukee Vocational and Adult Schools are confident that the taxes reserved to them by state law will enable them to raise the funds necessary for the construction of a station. The Milwaukee Educators' Committee on Television demonstrated that the educators are working together to solve the problems that must be faced in the establishment of a non-commercial educational station. The educators have made it clear that the finalization of the reservation of VHF Channel 10 is one of the steps required before the educators can proceed with their plans for the establishment of an educational station. The reservation of VHF Channel 10 would still leave available for commercial interests one VHF and three UHF channels which have not yet been assigned.[124] No legal right or preference to a commercial VHF channel inures to Hearst Radio and Wisconsin Broadcasting by reason of their past participation in a hearing for assignment of VHF channels in Milwaukee which was not carried to completion due to the "freeze." We believe the opinion of the Commission issued on December 12, 1951, in connection with the requests for oral hearing of Daily News Television Company, et al., makes clear that the Commission, in a proceeding such as this, may change the assignment of VHF channels in Milwaukee under the circumstances presented. Accordingly, on the basis of the record, the counterproposal of the Wisconsin Broadcasting System, Inc., and Hearst Radio, Inc., to change the reservation from VHF Channel 10 to a UHF channel, is denied; and the reservation of VHF Channel 10 for non-commercial educational television use in Milwaukee, Wisconsin is finalized.

Conclusions: Green Bay and Milwaukee

574. The counterproposal to add VHF Channel 2 to Green Bay in addition to VHF Channel 6 is mutually exclusive with those of the Milwaukee parties to add VHF Channel 6 to Milwaukee by deleting it from Green Bay. It is our view that the record does not support the addition of a 4th channel to Milwaukee in preference to a second VHF channel for Green Bay. The City of Green Bay is a large commercial center with diversified businesses and industries and the record supports the need of this area for a second assignment.

575. In addition, the assignment of VHF Channels 2 and 6 to Green Bay are in accordance with our standards adopted herein. On the other hand, the counterproposal of the Milwaukee parties would require a deviation from our rules and standards. Elsewhere in this decision we have determined that for purposes of creating new assignments the minimum separation between a city and an existing authorized transmitter shall be 170 miles. The distance between WOC-TV and Milwaukee, however, is only 167 miles.

576. In view of the foregoing, the counterproposals of the Milwaukee Broadcasting Company and the joint counterproposal of the Wisconsin Broadcasting Company, Inc. and the Hearst Radio, Inc., are denied, and the counterproposal of the Green Bay Broadcasting Company is granted.

Conclusions: WTMJ Show Cause Order

577. An appropriate authorization will be issued to the Journal Company to specify operation of WTMJ-TV on Channel 4 in Milwaukee.

Final Assignment and Reservations

578. The following assignments and reservations are adopted:

City	VHF Channel	UHF Channel
Green Bay, Wis.	2, 6	
Milwaukee, Wis.	4, *10, 12	19, 25, 31

WISCONSIN EDUCATIONAL RESERVATIONS

579. (a) **Proposed Reservations.** In the Third Notice the Commission proposed the following educational reservations in the State of Wisconsin:

City	Channel No.
Eau Claire	*19
La Crosse	*32
Madison	*21
Marinette	*38
Milwaukee[125]	*10
Duluth, Minn.-Superior	*8

(b) **Eau Claire.** Wisconsin State College, Eau Claire, and the JCET supported the reservation of UHF Channel 19. Wisconsin State College stated it was prepared to cooperate in any state-wide program of television service which the people of Wisconsin might establish. No objections were made to the proposed reservation.

(c) **La Crosse.** La Crosse State College and JCET supported the reservation of UHF Channel 32. The College stated that it has supported the development of radio as an educational tool; that it has encouraged the establishment of the state radio FM network; and that it has worked for the effective use of radio in the schools of the La Crosse area. The College stated it was ready to cooperate in any state-wide program of television service which the people of Wisconsin might decide to establish. No objections were made to the proposed reservation.

(d) **Madison.** The University of Wisconsin supported the reservation of Channel 21 for Madison. The University stated that it had taken steps to design a system of educational television transmission throughout the state and to incorporate television program study in its courses.

(e) **Counterproposal of Radio Wisconsin, Inc.** Radio Wisconsin, Inc., proposed that the educational reservation in Madison be shifted from UHF Channel 21 to VHF Channel 3. In the Third Notice the Commission had proposed to assign VHF Channel 3 and UHF Channels 27 and 33 for commercial television and to reserve UHF Channel 21 for non-commercial educational television. Radio Wisconsin urged that the public is best served when several broadcasting stations with equal transmission facilities are compelled to compete for their audiences on the basis of the quality of the programs they broadcast; that such equality promotes the financial health of all the broadcasters and eliminates the probability of marginal operation (financially and programwise) which would exist if one station had superior facilities compared with the other stations in the same community; and that such equality for commercial broadcasters could be brought about in Madison by placing the three commercial assignments in the UHF band and shifting the reservation to VHF Channel 3.

(f) **Oppositions to Radio Wisconsin Counterproposal.** This proposal of Radio Wisconsin was opposed by Monona Broadcasting Company, and Badger Broadcasting Company. These parties contended that commercial interests were in a position to make use of the VHF channel immediately while its reservation would result at best in substantial delay in its use; and that better use of the channel would be made programwise by commercial interests. It was further stated that intermixture of VHF and UHF was supported by the Commission. Monona Broadcasting stated that Wisconsin Broadcasting's principle, if valid, would have to be applied generally and a broad revision of the assignment plan would be required.

(g) **Marinette.** The Wisconsin State Radio Council supported the reservation for non-commercial use of Channel 38 for Marinette. No objections were made to the proposed reservation.

(h) **Duluth, Minn. — Superior, Wis.** The JCET supported the reservation of Channel 8 for Duluth-Superior. The JCET pointed out that the following educational institutions would be served by an educational television station in the area: College of Saint Scholastica, Duluth; Ely Junior College, Eveleth Junior College, Hibbing Junior College, Itasca Junior College, Virginia Junior College, Ashland County Normal School, Northland College, and State College, Superior, Wisconsin. No objections were made to the proposed reservation.

(i) **Racine.** The Racine Public Library filed a sworn statement requesting the reservation of a channel for non-commercial educational television use at Racine, Wisconsin. The Public Library stated that the reservation of a channel at Milwaukee did not provide for effective community participation in the Racine-Kenosha area. It was contended that the needs of the area would be better met by the reservation of a UHF channel at Racine. No specific channel was requested. Incorporated in the statement filed by the Library were letters from various educational and labor organizations. No objections were filed to this proposal.

(j) **Support and Counterproposal of Wisconsin State Radio Council.** The Wisconsin State Radio Council supported the Commission's proposal to reserve six channels for non-commercial educational television use in the State of Wisconsin. While supporting the Commission's proposal the State Radio Council stated that the six channels proposed for reservation were inadequate to provide a statewide non-commercial educational television service. Accordingly, the Radio Council requested six additional channel reservations to meet the educational needs of the State. The University of Wisconsin at Madison, Wisconsin, supported the State Radio Council in its request that six additional channels be reserved for non-commercial educational television use. An engineering study conducted by the Radio Council indicated that a network of twelve stations would be needed to provide at least Class B service throughout Wisconsin. These could be interconnected and operated simultaneously through the establishment of twelve microwave relay stations. The Radio Council estimated that the proposed twelve station network could be constructed for less than $3,000,000 and stated that this sum is but a fraction of the total amount invested in educational plant and equipment in the State. The Wisconsin State Radio Council at Madison, Wisconsin, is a policy-making, administrative and executive board created by the 1945 State legislature to "plan, construct, and develop a state system of radio broadcasting for the presentation of educational, informational and public service programs." The Governor of Wisconsin has designated the Council as the appropriate agency to "take action to acquaint the Commission with the desire of the State of Wisconsin to have channels reserved for educational use." The Council, as an indication of its interest in educational broadcasting, pointed to its operation of an educational network of two AM stations and six FM stations with two additional FM stations under construction. No objections were made to the proposed additional six reservations.

Conclusions: Eau Claire, La Crosse, Marinette, Duluth, Minn.—Superior, Wisconsin

580. On the basis of the record the proposed reservation of the following channels for non-commercial educational use are finalized:

City	Channel No.
Eau Claire	*19
La Crosse	*32
Marinette	*38
Duluth, Minn.-Superior, Wis.	*8

[124] See also the discussion of the educational reservation in Boston.

[125] The Milwaukee educational reservation is discussed above.

Conclusions: Madison

581. It is our view that the counterproposal of Radio Wisconsin, Inc., requesting that the educational reservation in Madison be shifted from UHF Channel 21 to VHF Channel 3 should be denied. We do not believe that the arguments advanced by Radio Wisconsin, Inc., for the assignment of all commercial stations in the UHF outweigh such other important factors, as wide VHF coverage, which have led to the adoption of our general policy concerning the reservation of VHF channels for non-commercial educational stations. We have proposed the assignment of only one VHF channel to Madison; and in light of the fact that the educational interests in that community have not requested the reservation of that VHF channel for non-commercial educational use and have made no showing with respect to the utilization of a VHF channel we do not believe the record supports the shifting of the educational reservation to the only VHF channel in Madison. Accordingly, the counterproposal of Radio Wisconsin, Inc., is denied, and the reservation of Channel 21 in Madison for non-commercial educational use is finalized.

Conclusions: Additional Reservations in Wisconsin

582. On the basis of the record we believe the Wisconsin State Radio Council's counterproposal should be granted. Accordingly, the following additional reservations of channels for use by non-commercial educational stations have been made in the State of Wisconsin:

City	UHF Channel No.
Shell Lake	*30
Park Falls	*18
Wausau	*46
Adams	*58
Chilton	*24
Richland Center	*66

Conclusions: Racine

583. In light of the action taken above finalizing the reservation of six channels proposed for non-commercial educational use in the Third Notice (including VHF Channel 8 at Milwaukee, approximately 20 miles from Racine) and making available six additional assignments for such use, the Commission believes that adequate provision has been made for non-commercial educational television in Wisconsin. Accordingly, the request from the Racine Public Library is denied.

Final Reservations

584. The following reservations are finalized in Wisconsin:

City	Channel VHF No.	Channel UHF No.
Eau Clair		*19
La Crosse		*32
Madison		*21
Marinette		*38
Milwaukee	*10	
Duluth, Minn.-Superior, Wis.	*8	
Shell Lake		*30
Park Falls		*18
Wausau		*46
Adams		*58
Chilton		*24
Richland Center		*66

COLUMBIA, MISSOURI: EDUCATIONAL RESERVATION

585. (a) **Proposed Assignments and Reservation.** In the Third Notice the Commission proposed 3 channels.. for Columbia: VHF Channel 8 and UHF Channels 16 and 22. Columbia was designated as a "primarily educational center" and the Commission proposed the reservation of Channel 8 for non-commercial educational use.

(b) **Counterproposal of University of Missouri.** The University of Missouri requested that the Commission authorize "commercial operation on the channels reserved for educational institutions to an amount equal to 50% of the broadcast day." The sworn statement of the University again requested partial commercialization of the channel but made no reference to the degree of commercialization desired.

(c) **Statements in Support of University of Missouri Counterproposal.** The University stated that funds for the construction of a station would be available but that funds for the maintenance and operation of the station would not be available for an indefinite period. The Radio Committee of the University, after conferences with state officials, was convinced the State Legislature would not authorize the operation of the television station at State expense and that funds from commercial programs must be used for the television operation. The University stated that unless the Commission permits partial commercialization for non-profit operation it would have no alternative but to apply for a commercial station. The University stated that it did not desire to operate a commercial station for profit but preferred rather to operate a partially commercial non-profit station. The University stated that if the station were permitted to commercialize partially so that it could telecast programs originated by one of the major networks the station would have a sufficient variety of programs to make it attractive to the viewers and thus be able to hold an audience against competing commercial stations. The University also stated that if partial commercialization were permitted it would intersperse commercial programs between educational programs; that it proposed to inaugurate a series of educational programs in agriculture, domestic science, farm management, animal husbandry, horticulture, music, music appreciation, the dramatic arts, sciences, and other programs of an educational nature which might from time to time be desirable; and that in order to make the educational programs of the station most effective and to cover the various phases of education, high schools and nearby colleges would be solicited to prepare and present educational programs if the proposed station should become a reality.

(d) Stephens College, Columbia, supported the proposal of the University of Missouri. The College stated that although it did not intend to operate a television station it was interested in a television station from the point of view of using it as a significant teaching aid.

(e) No party affirmatively supported the proposed reservation of Channel 8 for non-commercial educational use.

(f) **Opposition of KFRU, Inc., Columbia, Missouri.** KFRU opposed the request of the University for partial commercial operation on VHF Channel 8 on the grounds that such an operation would give the University unfair competitive advantages over a commercial licensee, and stated it had no objection to the reservation of Channel 8 for non-commercial educational use.[128]

Conclusions

586. We have above in another portion of this Report denied the request of the University of Missouri that the Commission authorize partial or limited commercial operation on channels reserved for use by educational stations. There is no evidence or support in the record for the reservation of a channel in Columbia for use by a non-commercial educational station. On the contrary, the University of Missouri stated that it wishes to operate on Channel 8 as a commercial station if it cannot operate in a partial or limited commercial manner. The University cannot under these circumstances be given any preferential treatment by way of a reservation but will be required to compete equally with applicants for commercial channels. Accordingly, the counterproposal of the University of Missouri is denied, and, in view of the foregoing, the educational reservation is deleted and Channel 8 is assigned to Columbia for commercial use.

Final Assignments

587. The following assignments are adopted:

City	VHF Channel No.	UHF Channel No.
Columbia	8	16,22

KANSAS CITY, MISSOURI AND LAWRENCE, KANSAS

588. (a) **Proposed Assignments and Reservations.** In the Third Notice the Commission proposed the following assignments and reservations:

City	VHF Channel No.	UHF Channel No.
Lawrence, Kansas	*11	17
Kansas City, Mo.	4,5,*9	19,25

(b) **Census Data.** The Kansas City standard metropolitan area has a population of 814,000 and the City of Kansas City has a population of 457,000. The City of Lawrence has a population of 23,000.

(c) **Existing Stations.** Kansas City Star Company is licensed for the oneration of Station WDAF-TV, Kansas City, on Channel 4.

(d) **The Lawrence Educational Reservation.** The University of Kansas, Lawrence, supported the reservation of VHF Channel 11 in Lawrence for non-commercial educational use. The University stated it was resolved to provide an educational television service. It stated that it had made careful analysis of cost, personnel, programming, equipment, opportunities for educational service, and financial resources; that it had pioneered in the use of closed-circuit television in its Medical Center; and that the sources which it could draw upon included eleven schools, sixty-eight departments, ten divisions, a thousand teachers, and a supporting staff of an additional thousand. The University also stated that its Bureau of Lectures and Concert Artists furnished during the year over three thousand programs to four hundred communities, and that its Bureau of Visual Instruction, as one of the great film libraries of America, has furnished more than twenty thousand educational film programs in response to requests from all over the nation. As further evidence of its interest in educational broadcasting, the University stated that it has operated radio station KFKU since 1924 and that the University's FM station KANU was scheduled to go on the air in January 1952 as a full time 10,000 watt station. It was also stated that in June 1951 a new division, University of Kansas Radio, was formed, a full-time Director of Radio appointed and the full-time staff for radio doubled. Plans were also approved for two new studios in addition to those already used for broadcasting. The University stated that its resources make it possible for television to be properly financed; and that in the fiscal year of 1951-1952 it was operating on a budget of $13,000,000 with additional funds of $10,000,000 recently allocated for the construction of new buildings. While the University acknowledged that the 1951 Legislature did not appropriate specific funds for an educational television station, evidence was submitted indicating that the University had other sources of funds, such as gifts and endowments, which in 1950 were more than $1,000,000. It was also stated that the Kansas State Board of Regents, the governing body of the University, on April 20, 1951, authorized the University to apply for a license to operate a television station. The University said that engineering surveys have been prepared, that a University Committee on Television has been formed, and that "plans are going forward swiftly for the establishment of a television station soon after approval is granted by the F.C.C."

[128] The Board of Curators of the University of Missouri filed with the Commission Motions to Strike the entire affidavit of H. J. Waters, Jr., filed on behalf of KFRU, Inc., for the reason that it is hearsay; if the Commission does not strike the entire affidavit, the Board moved that certain portions of the affidavit be stricken for the reasons that it is opinion testimony not supported by any facts, that the statements are conclusions of the affiant, and that the statements are irrelevant and immaterial to the issues in this proceeding. A Motion to Strike is directed against the entire affidavit of A. D. McLarty filed on behalf of KFRU, Inc., for the reason that the statements are immaterial and irrelevant to the issues in this proceeding. KFRU, Inc., filed with the Commission a Reply to the Motions to Strike negativing the objections raised by the Board of Curators. The Motions to Strike are DENIED since they go only to the weight to be given to the evidence and not to its admissibility, materiality, and competency as evidence in this proceeding. KFRU, Inc., on October 15, 1951, filed with the Commission a Motion to Strike all or certain parts of the affidavit of Lester E. Cox, Member of the Board of Curators of the University of Missouri, and of the verified letter of Homer P. Rainey, filed on behalf of the University of Missouri on the grounds that they are irrelevant, immaterial and unsupported conclusions. Further objection is made to the affidavits of Mr. Cox and Mr. Rainey for the reason that the sworn statements deal with a proposal for limited commercial operation by educational stations, a matter relating to Appendix A of the Third Notice, while the University of Missouri in its initial Comments did not direct its statements to Appendix A. On October 29, 1951, the Board of Curators filed a reply to the Motion to Strike. The Board of Curators of the University of Missouri on July 16, 1951, filed with the Commission a request to amend its comments of May 7, 1951, to also refer to Appendix A of the Third Notice. Further, the sworn statements of Mr. Cox and Mr. Rainey of September 24, 1951, are consistent with the initial comments of the Board of Curators. The other objections to the statements involved go only to the weight of the evidence and not to its admissibility. The Motion to Strike is therefore DENIED.

The University stated that a UHF channel would not be desirable as a substitute for the proposed VHF assignment since it believed that UHF at the present time could not provide the desired service coverage required by the needs of the area; that of the hundreds of thousands of sets in use in the area few, if any, were equipped for UHF reception; that since the citizens of Kansas City, Missouri, also claim the University of Kansas as their University it was its intent to use its proposed television station to provide service not only to a large portion of the population of Kansas, but also to metropolitan Kansas City, Missouri. The University submitted a detailed list of suggested television programs under the categories of Medicine and Public Health, Science, Education, Home Economics and Miscellaneous. The University's statement included letters of support for its proposed educational television station from civic, educational and religious groups. (Lawrence, Kansas was designated as a "primarily educational center".)

(e) **Counterproposal of the Midland Broadcasting Company, KCMO Broadcasting Company and WHB Broadcasting Co.** The Midland Broadcasting Company, KCMO Broadcasting Company and WHB Broadcasting Company filed an opposition to the reservation of VHF Channel 11 for educational purposes at Lawrence and a joint counterproposal for the assignment of that channel to Kansas City by making the following changes in the assignments proposed by the Commission in the Third Notice:

City	Third Notice VHF Channel No.	Third Notice UHF Channel No.	Proposed Changes VHF Channel No.	Proposed Changes UHF Channel No.
Lawrence, Kansas	*11	17	†	*17,64†
Kansas City, Mo.	4,5,*9	19,25	4,5,9,11†	*19,25

Midland individually proposed the assignment of Channel 11 to Kansas City by its deletion at Lawrence and the interchange of Channels 2 and 9 between St. Joseph and Kansas City, as follows:

City	Third Notice VHF Channel No.	Third Notice UHF Channel No.	Counterproposal VHF Channel No.	Counterproposal UHF Channel No.
Lawrence, Kansas	*11	17	†	*17,64†
Kansas City, Mo.	4,5,*9	19,25	2†,4,5,11†	*19,25
St. Joseph, Mo..	2	30,*36	9†	30,*36

(f) The assignment of Channel 11 to Kansas City would result in a co-channel separation in Zone II between Kansas City and Des Moines, Iowa, of 180 miles. The minimum separation for co-channel assignments in this zone is 190 miles.

(g) **Statement in Support of Midland Broadcasting Company, et al., Counterproposal.** It was asserted that VHF Channel 11 could not be successfully used now by the University of Kansas, primarily for the reason that it has no public funds for acquiring and maintaining a television station; and stated that the only educational bodies or institutions which could apply for and use VHF Channel 11 were the public school system of Lawrence or the University of Kansas. It was submitted that the revenues of the public school system of Kansas were inadequate to permit that body to incur the large expense necessary to construct and operate a non-commercial educational television station in Lawrence. As regards the University of Kansas, the petitioners stated that the University is a State institution supported by biennial appropriations made by the Legislature of the state of Kansas whose appropriations for the University for 1951 and 1952 contain no provisions for funds that could legally be used for the construction and operation of a non-commercial educational station. It was stated that the next regular session of the legislature of Kansas at which appropriations for the University of Kansas would be made will not convene until January 1953. Accordingly, it was contended the reservation of VHF Channel 11 for non-commercial educational use in Lawrence, Kansas, will inevitably result in non-use of said channel in the foreseeable future. It was stated that UHF Channel 17 now assigned for commercial use in Lawrence, Kansas, could not now be successfully used for commercial telecasting since no dealer or distributor of television receiving equipment in this area has available converters or other equipment necessary to adapt existing television sets to receive a UHF television broadcast service. It was stated that by the time the University of Kansas, or any other educational body in Lawrence, Kansas, could obtain funds with which to build and operate a television station, a sufficient number of receivers equipped to receive UHF telecasts would then be in this area thus making the utilization of this channel feasible and practical for non-commercial educational television use.[127]

[127]Midland Broadcasting Company, WHB Broadcasting Company and KCMO Broadcasting Company filed with the Commission a joint Motion to Strike certain portions of the evidence of the University of Kansas filed with the Commission on October 15, 1951, in support of the proposal to reserve Channel 11 for non-commercial educational use in Lawrence, Kansas.

The Motion to Strike is directed against material written by and derived from third parties, including all of Page 12 and Page 13, and Exhibit E in its entirety, on the ground that such material does not comply with paragraphs 5 and 6 of the Order of Hearing Procedure and is hearsay. The Motion to Strike is DENIED. The material is admitted for the limited purpose of establishing the resources of the University for television.

The Motion to Strike is directed also against such portions of Exhibit B, Page 11 of the brochure, that refer to authorization of Deane W. Malcott, as Chancellor of the University of Kansas, to make application for a TV radio license, on the ground that it appears from the brochure that Deane W. Malcott has been succeeded by Franklin D. Murphy as Chancellor of said University, and it does not appear that Deane W. Malcott is now authorized to act as Chancellor of said University. The Motion to Strike is DENIED. The material objected to is admissible for the purpose of establishing the intention of the University at the time of preparation of the brochure.

The Motion to Strike is also directed against certain other portions of the brochure on the grounds that the statements are irrelevant, immaterial and conclusionary matter unsupported by facts. The Motion to Strike is DENIED. The objection goes only to the weight to be given to the evidence in this proceeding and not to its admissibility.

On October 30, 1951, KCMO Broadcasting Company filed with the Commission a Motion to Strike Exhibit No. 1, a sworn statement of Arthur B. Church, President of Midland Broadcasting Company, contained in the "Written Testimony in Support of Supplemental Petition of Midland Broadcasting Company" filed with the Commission on September 17, 1951. Exhibit No. 1 is devoted to the television application plans of Midland Broadcasting Company. The reason advanced for the Motion to Strike is that Exhibit No. 1 is wholly inappropriate to these proceedings in that it is an unfair attempt to aggrandize and build up a private and special position for the petitioner in the minds of the Commissioners and the Commission staff. The Motion to Strike is DENIED. There is nothing in the Third Notice of Further Proposed Rule Making or in the Order of Hearing Procedure of July 25, 1951, which precludes the offering of testimony such as is given in Exhibit No. 1. The Motion to Strike goes only to the weight to be given to the evidence and not to its admissibility.

(h) **Alternate Counterproposal of the Midland Broadcasting Company and WHB Broadcasting Company.** The Midland Broadcasting Company and WHB Broadcasting Company requested the assignment of a fourth VHF assignment to Kansas City, Mo., by making the following changes in the assignments proposed by the Commission in the Third Notice:

City	Third Notice VHF Channel No.	Third Notice UHF Channel No.	Counterproposal VHF Channel No.	Counterproposal UHF Channel No.
Pittsburg, Kansas	7	38	12†	38
Joplin, Missouri	12	30	9†	30
Kansas City, Missouri	4,5,*9	19,25	2†,4,5,7†	*19†,25
St. Joseph, Mo.	2	30,*36	9†	30,*36

(i) The foregoing changes in the assignments proposed in the Third Notice would result in the following co-channel separations in Zone II.

Channel 12 Pittsburg, Kan.-Hutchison, Kan., 181 miles.

Channel 9 Joplin, Mo.-St. Joseph, Mo., 185 miles.

Channel 7 Kansas City-Omaha, Nebr., 166 miles.

Channel 7 Kansas City-Hannibal, Mo., 178.5 miles.

(j) **Statement in Support of Alternate Midland and WHB Counterproposal.** It was urged that because of its size and importance Kansas City should be assigned at least four VHF assignments; that the counterproposal has no effect on the Commission's priorities of allocation except priority 5; and that no community loses an assignment as a result of the counterproposal. It was recognized that the counterproposal would result in the assignment of VHF Channel 7 to Kansas City at a distance of 166 miles from Omaha, Nebraska and 178.5 miles to Hannibal. It was urged, however, that Channel 7 could be assigned to a community in the Kansas City metropolitan area such as Grandview, Missouri, which is 180 miles from Omaha and Hannibal. Grandview, Missouri, has a population of 1,556 and is 14.5 miles south of Kansas City, Missouri, and within that metropolitan area. It was contended that the assignment of Channel 7 to Grandview, Missouri, would serve the Kansas City area with signal strength values equal to or greater than those proposed in Appendices A and B for urban service.

(k) **Oppositions to the Midland and WHB Alternate Counterproposal.** Oppositions to the alternate joint counterproposal were filed by KFEQ, Inc., St. Joseph, Missouri; the Courier Post Publishing Company, Hannibal, Missouri; Four States Broadcasters, Inc., Joplin, Missouri; KFAB Broadcasting Company, Omaha, Nebraska, and Pittsburg Broadcasting Company, Inc., Pittsburg, Kansas. The counterproposal also conflicts with the counterproposal of WKY Radiophone Company, Oklahoma City, Oklahoma.

(l) **The Kansas City Educational Reservation.** Midland, *et al*, proposed that UHF Channel 19 be reserved for non-commercial educational use in lieu of VHF Channel 9. The JCET made the same proposal. The JCET proposal was based on the statements of the University of Kansas City, Missouri, and the Board of Education of the School District of Kansas City, Missouri, requesting that "the Commission release for commercial use in Kansas City VHF Channel 9 in the final allocation table of the Commission, and that one of the UHF channels to be allocated to Kansas City be reserved for educational use. . . ."

Conclusions: Lawrence, Kansas Educational Reservation

589. On the basis of the record, the Commission finds that the University of Kansas has demonstrated its interest in establishing a non-commercial educational television station in Lawrence, which has been designated as a "primarily educational center." We are not able, on the basis of the record, to find that the University will not have the funds necessary to construct and operate a non-commercial educational television station. In view of the record, the Commission believes that strong encouragement should be given to the efforts of the University to construct an educational facility at the earliest date. The Commission in its Third Notice recognized the fact that educational institutions of necessity needed a longer period of time to prepare for television than did commercial interests. It was for this reason that the reservation principle was adopted. The Commission believes that the reasons for the reservation of a channel for education purposes are particularly applicable here. Moreover, a grant of the Midland, *et al*. counterproposal would result in a co-channel station separation between Kansas City and Des Moines on Channel 11 of 180 miles in Zone II for which a minimum of 190 miles was established.

590. Accordingly, the joint petition of the Midland Broadcasting Company, KCMO Broadcasting Company, and WHB Broadcasting Company, and the individual request of Midland are denied; and the reservation of VHF Channel 11 at Lawrence, Kansas, for non-

commercial educational television use is finalized.

Conclusions: Kansas City Educational Reservation

591. On the basis of the record, the Commission accepts the proposal of the parties that UHF Channel 19 be reserved for non-commercial educational television use and that VHF Channel 9 be assigned for commercial use at Kansas City, Missouri.

Conclusions: Additional VHF Assignment in Kansas City

592. It is our view that the record does not warrant a grant of the joint counterproposal of Midland Broadcasting Company and WHB Broadcasting Company for the assignment of a fourth VHF channel in Kansas City. As a result of our decision herein, Channel 19 has been reserved for non-commercial educational use in lieu of Channel 9 and Channel 9 has been retained in Kansas City as a commercial VHF station. Accordingly, our decision assigns 3 commercial VHF channels to Kansas City with a UHF channel reserved for non-commercial educational use and two UHF channels assigned for commercial use. A grant of the request for the assignment of a fourth VHF channel to Kansas City would require a deviation from the minimum mileage separations adopted herein since it would result in co-channel separations of 166 miles between Kansas City and Omaha on Channel 7, 178.5 miles between Kansas City and Hannibal on Channel 7, 181 miles between Pittsburg, Kansas, and Hutchison, Kansas, on Channel 12, and 185 miles between Joplin, Mo., and St. Joseph, Mo., on Channel 9. The minimum assignment separation in this Zone is 190 miles.

593. The request to assign Channel 7 to Grandview constitutes, in effect, a request that the Commission measure the assignment mileage spacings from a specific proposed transmitter site in order to find compliance with our minimum assignment spacing requirements. We have above rejected this manner of measuring the mileage spacings for purposes of making new assignments in the Table. Moreover, the assignment of Channel 7 to Grandview would result in the same number of violations of the minimum co-channel separation requirements in Zone II, as are set forth in paragraph 592 above.

594. In view of the foregoing, the counterproposal of the Midland Broadcasting Company and the WHB Broadcasting Company is granted in so far as it requests that Channel 19 be reserved for non-commercial educational use in lieu of Channel 9 in Kansas City, and is denied in all other respects.

Conclusions: Additional Channel for Kansas City

595. We are of the view that the assignment of an additional channel in Kansas City is warranted on the basis of the record.[12a] It was above noted that the counterproposals requesting additional VHF channels for Kansas City could not be granted. UHF Channel 65 in Kansas City would meet the required mileage spacings for channel assignments in this Zone. Accordingly, Channel 65 will be added to Kansas City, Mo.

[12a] See also our discussion above in connection with the addition of a UHF channel to Pittsburg.

Final Assignments and Reservations

596. The following assignments and reservations are adopted:

City	VHF Channel No.	UHF Channel No.
Lawrence, Kansas	*11	17
Kansas City, Mo.	4,5,9	*19,25,65

MANHATTAN, KANSAS EDUCATIONAL RESERVATION

597. (a) **Proposed Reservation.** In the Third Notice the Commission proposed the reservation of VHF Channel 8 for non-commercial educational use in Manhattan.

(b) Kansas State College of Agriculture and Applied Science at Manhattan supported the reservation asserting that it proposed to utilize Channel 8 for non-commercial educational television station as far as conditions made such a step possible. It stated that an application would be filed if the rules governing non-commercial educational stations as adopted by the Commission permit construction within the College's budget and present facilities. The College stated that it had available most of the equipment, facilities, and finances for such a station, noting that it has held an experimental television station license since 1932. The Office of Education of the Diocese of Salina, Belleville, Kansas, and the JCET also supported the reservation. No oppositions to the proposed reservation were filed.

Conclusions

598. In view of the foregoing the reservation of Channel 8 for non-commercial educational use at Manhattan is finalized.

TOPEKA, KANSAS, EDUCATIONAL RESERVATION

599. (a) **Proposed Reservation.** In the Third Notice the Commission proposed to reserve UHF Channel 48 in Topeka, Kansas for non-commercial educational use.

(b) Washburn Municipal University of Topeka supported the reservation of UHF Channel 48 in Topeka for non-commercial educational use, and submitted a resolution of its Board of Regents stating they were deeply interested in the use of television as an educational medium. The University stated that it would make the necessary arrangements for the establishment of an educational station when UHF is perfected for practical use; if costs are not excessive. No oppositions to the proposed reservation were filed.

Conclusions

600. In view of the foregoing the reservation of UHF Channel 48 for non-commercial educational use in Topeka is finalized.

WICHITA, KANSAS

601. (a) **Proposed Assignments and Reservation.** In the Third Notice the Commission proposed the assignment of 4 channels to Wichita, Kansas: VHF Channels 3 and 10 and UHF Channels 16 and 22, with Channel 22 reserved for non-commercial educational use.

(b) **Census Data.** The Wichita standard metropolitan area has a population of 222,000 and the City of Wichita has a population of 168,000.

(c) **Counterproposals of KFBI, Inc., and Taylor Television & Radio Corporation.** KFBI, Inc. and Taylor Television & Radio Corporation, both of Wichita, filed counterproposals seeking to add VHF Channel 6 to Wichita, Kansas. This assignment was proposed to be accomplished by changing channels in Dodge City, Kansas; Tulsa, Oklahoma; Lawton, Oklahoma; and Wichita Falls, Texas. Oppositions were filed to this counterproposal by Cameron Television, Inc., Tulsa, Oklahoma, and Wichtex Radio & Television Company, Wichita Falls, Texas. However, on July 11, 1951, KFBI, Inc. and Taylor Radio & Television Corporation withdrew their request for the VHF Channel 6 in Wichita, and it will not be discussed further in this Report.

(d) **Counterproposal of Wichita Beacon Broadcasting Company.** Wichita Beacon Broadcasting Company, Wichita, Kansas, requested the additional assignment of UHF Channels 45 and 53 to Wichita.

(e) **Statement in Support of Wichita Beacon Broadcasting Company Counterproposal.** Wichita Beacon Broadcasting Company asserted that the City of Wichita has a population of over 166,000; that six broadcasting stations are presently operating in that community; and that the demand for commercial television frequencies in Wichita will exceed the assignments proposed by the Commission. The addition of two more channels in Wichita, it was submitted, would carry out priority 5 in a rapidly growing area where the demand of frequencies will exceed those proposed by the Commission.

(f) UHF Channels 45 and 53 cannot be utilized in the same community. Since these channels are spaced 8 apart in the spectrum, they must be at least 20 miles apart to prevent I.F. beat interference. UHF Channel 45 at Wichita would be 173 miles from the co-channel assignment at Muskogee, Oklahoma. Both Wichita and Muskogee are situated in Zone II. Consequently, the assignment of UHF Channel 45 in Muskogee would not meet the required 175 mile minimum assignment separation for UHF channels in Zone II. With respect to UHF Channel 53, this assignment in Wichita would be only 166 miles from the co-channel assignment at Shawnee, Oklahoma, which is also located in Zone II. Accordingly, UHF Channel 53 in Wichita also would not meet the required 175 mile minimum assignment separation for UHF channels in Zone II.

(g) **Conflicting Counterproposals and Oppositions to the Wichita Beacon Broadcasting Company Counterproposal.** No oppositions nor conflicting counterproposals to the counterproposal of Wichita Beacon Broadcasting Company have been filed.

(h) **Educational Reservation.** The University of Wichita filed a statement supporting the reservation of UHF Channel 22 in Wichita for non-commercial educational use asserting that it had made preliminary plans for the establishment and operation of a non-commercial educational station. The Department of Education of the Catholic Diocese of Wichita also supported the reservation stating that it expected to work out an arrangement with the University of Wichita, the public school system of Wichita, the county school system and other private schools in the area. The JCET also filed a statement in support of the reservation. No oppositions to the reservation of UHF Channel 22 in Wichita were filed.

Conclusions: Educational Reservation

602. In view of the foregoing, the reservation of UHF Channel 22 in Wichita for non-commercial educational use is finalized.

Conclusions: Additional UHF Channels

603. Wichita Beacon Broadcasting Company has requested that UHF Channels 45 and 53 be added to Wichita. UHF Channels 45 and 53 cannot be employed in the same community since they must be, under the requirements adopted herein, at least 20 miles apart to avoid I.F. Beat interference. Moreover, neither Channel 45 nor Channel 53 would meet the required 175-mile minimum co-channel assignment spacing for UHF channels in Zone II. UHF Channel 45 would be only 173 miles from the co-channel assignment in Muskogee, and UHF Channel 53 would be only 166 miles from the co-channel assignment at Shawnee. The counterproposal of Wichita Beacon Broadcasting Company must therefore be denied.

Final Assignment and Reservation

604. The following assignments and reservation are adopted:

City	VHF Channel No.	UHF Channel No.
Wichita, Kansas	3,10	16,*22

NORTH DAKOTA EDUCATIONAL RESERVATIONS

605. (a) **Proposed Reservations.** In the Third Notice the Commission proposed the following reservations for non-commercial educational use in North Dakota:

City	Channel No.
Bismarck	*24
Dickinson	*17
Fargo	*34
Grand Forks	*2
Minot	*6
Williston	*34

(b) **Bismarck.** The Board of Education of the City of Bismarck and JCET supported the reservation of UHF Channel 24 at Bismarck. The Board of Education asked that the channel be reserved for educational use until such time as the Bismarck Public Schools, either alone or in cooperation with other educational institutions, were able to establish and maintain an educational television station. No objections to the reservation were filed.

(c) **Dickinson.** The Dickinson State Teachers College, the Board of Education, Dickinson and JCET supported the reservation of Channel 17 at Dickinson. Dickinson State Teachers College stated that it was prepared to cooperate in the utilization of this channel with all the educational institutions in the area. The Board of Education in its sworn statement requested the reservation of the channel in anticipation of its use at some future date for educational television by the Board alone, or in cooperation with the other educational institutions in the area. No objections to the reservation were filed.

(d) **Fargo.** The JCET supported the reservation of Channel 34 and asked that the reservation be made final. The Board of Education of the City of Fargo requested that an educational channel be reserved until the Board of Education either alone or in cooperation with other educational institutions, is able to establish and maintain an educational television station for the people of the state.

Concordia College, Moorehead, Minnesota, which is located close to Fargo, stated it was in favor of reserving a generous number of channels for non-commercial educational use and stated that it hoped to be in a position to engage in television. No objections to the reservation were filed.

(e) **Grand Forks.** The University of North Dakota filed a sworn statement in support of the reservation of Channel 2 at Grand Forks. The University stated that it was the intent of the University to apply for a license to operate a station. The University stated it intended to initiate appropriate steps to secure the necessary appropriation to provide for the construction of an educational television station. No objections to the reservation were filed.

(f) **Minot.** The JCET supported the reservation of Channel 6 at Minot and asked that it be finalized. No objections to the reservation were filed.

(g) **Williston.** Williston School District No. 1 and JCET supported the reservation. The School District stated that there was a likelihood that the Williston area would increase greatly in population as a result of recent oil exploitations. This factor was expected to develop a greater need for educational television in the area. The School District further stated it wanted to be in a position to make use of television as a valuable teaching device and as a means of reaching scattered school buildings. No objections to the reservation were filed.

Conclusions

606. On the basis of the record, the reservation of the following assignments for non-commercial educational use are finalized:

City	Channel No.
Bismarck	*24
Dickinson	*17
Fargo	*34
Grand Forks	*2
Minot	*6
Williston	*34

SOUTH DAKOTA EDUCATIONAL RESERVATIONS

607. (a) **Proposed Reservations.** In the Third Notice the Commission proposed the following reservations for non-commercial educational use in South Dakota:

City	Channel No.
Brookings	*8
Pierre	*22
Sioux Falls	*44
Vermillion	*2

(b) **Brookings.** The Board of Education Brookings City Schools supported the reservation of Channel 8 in Brookings. No objections to the reservation were filed.

(c) **Pierre.** The Pierre Independent School District supported the reservation of Channel 22. No objections to the reservation were filed.

(d) **Sioux Falls.** Augustana College supported the reservation of a channel in Sioux Falls, but requested that VHF Channel 11 or 13, assigned to Sioux Falls for commercial use, be reserved for education instead of a UHF channel. The College stated that since all operating television stations were now in the VHF band the utilization of the UHF band appeared to be entirely in the experimental stage.

(e) **Opposition of Midcontinent Broadcasting Company.** The Midcontinent Broadcasting Company, Sioux Falls, South Dakota, supported the Commission's assignments for Sioux Falls and objected to the proposal of Augustana College to shift the reservation to a VHF channel. Midcontinent stated that Augustana College's proposal was apparently predicated upon a mistaken belief that UHF channels were merely in an experimental stage at the present time, and that it might be some time before operation in the UHF became technically feasible. It was urged that the plans of this College of some 800 students for utilization of television as an educational facility were so indefinite and far in the future that a UHF television facility would be more appropriate for such operation.

(f) **Vermillion.** The University of South Dakota and JCET supported the reservation of VHF Channel 2. The University stated that it was investigating the possibility of the cooperative ownership and operation of a television station together with other educational institutions. The University stated it would take steps to utilize the channel as soon as it deemed it advisable and as soon as money was available. No objection to the reservation were filed.[129]

Conclusions

608. On the basis of the record, the proposed reservation of the foregoing assignments for non-commercial educational use are finalized. The Commission is not persuaded on the basis of the record that the educational reservation in Sioux Falls should be made in the VHF rather than in the UHF as proposed in the Third Notice. We find no reason in the record to depart from our general policy with respect to the reservation of VHF channels for use by non-commercial educational stations.

Final Reservations

609. The following reservations are finalized:

City	Channel No.
Brookings	*8
Pierre	*22
Sioux Falls	*44
Vermillion	*2

OMAHA AND LINCOLN, NEBRASKA

610. (a) **Proposed Assignments and Reservations.** In the Third Notice the Commission proposed the following assignments and reservations:

City	VHF Channel No.	UHF Channel No.
Lincoln	10,12	*18,24
Omaha	3,6,*7	16,22,28

(b) **Census Data.** The standard metropolitan area of Omaha has a population of 366,000 and the City of Omaha has a population of 251,000. The standard metropolitan area of Lincoln has a population of 120,000 and the City of Lincoln has a population of 99,000.

(c) **Existing Stations.** May Broadcasting Company is licensed for operation of station KMTV, Omaha, on Channel 3. Radio Station WOW, Inc., is licensed for operation of station WOW-TV, Omaha, on Channel 6.

(d) **The Omaha Educational Reservation.** The JCET supported the reservation of VHF Channel 7. The School District of Omaha, Nebraska, in a comment dated April 19, 1951, stated that it supported the reservation of VHF Channel 7. However, it filed no evidence in support of its comment.

(e) **Opposition of KFAB Broadcasting Company to VHF Reservation.** KFAB Broadcasting Company, Omaha, requested that the educational reservation be moved from VHF Channel 7 to the UHF. KFAB submitted letters from officials of educational institutions concerning the intentions of these institutions with respect to the construction and operation of a television station in the event the Commission reserved VHF Channel 7. In these letters the following statements were made: The University of Omaha stated through its President that it did not plan to file an application for VHF Channel 7 because the required expenditure was beyond its means and recommended that VHF Channel 7 be released for commercial operation. The University further stated that its needs would be satisfied by one of the UHF channels if at some future time it could render an effective full-time educational television service. A letter dated May 18, 1951, from the School District of Omaha to the KOWH Broadcasting Company, Omaha, Nebraska, said in part: "We are practical enough to know that the schools in this community can never support a television station nor a broadcasting station of their own." The School District said further: "We have taken the position that we are interested in non-commercial television service. We doubt whether this will ever be available for our use." The School District also stated that their comment to the Commission of April 19, 1951, was "merely to protect our rights in being able to appear before the Federal Communications Commission on matters of telecasting."

(f) **The Lincoln Educational Reservation.** The University of Nebraska and the JCET supported the reservation of UHF Channel 18 in Lincoln for use by a non-commercial educational station. The Board of Regents of the University stated it was investigating the possibilities of the use of this channel for educational televising. No objection was filed to the reservation.

(g) **Counterproposal of KFAB Broadcasting Company.** KFAB Broadcasting Company requested that VHF Channel 12 be assigned to Omaha by deleting it from Lincoln as follows:

City	Third Notice		Counterproposal	
	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.
Omaha, Nebraska	3,6,*7	16,22,28	3,6,7*,12†	16,22,28
Lincoln, Nebraska	10,12	*18,24	10,†	*18,24,46†

(h) **Statement in Support of KFAB Counterproposal.** KFAB Broadcasting Company urged that its counterproposal would result in service to more people; that it would be consistent with the priorities, and that it would meet the required co-channel station separations. It was further urged that the area which would lose service as a result of the operation of Channel 44 in Lincoln in lieu of Channel 12 would receive other service from Channel 10 in Lincoln and that parts of this area would receive from 3 to 12 other UHF and VHF services.

(i) **Oppositions to KFAB Counterproposal.** The Lincoln Broadcasting Corporation and the Inland Broadcasting Company, both of Lincoln, supported the proposed assignments for Lincoln and opposed the KFAB Broadcasting Company counterproposal for the deletion of Channel 12 from Lincoln and the replacement thereof with a UHF channel. The opposition to the counterproposal urged the need for a second VHF channel in Lincoln. It was stated that Lincoln is the capital city and the second largest city in the State of Nebraska; that the Grade B coverage of a UHF channel would be substantially less than that of a VHF channel; and that the area is largely rural and needs the wide coverage of a VHF channel. It was also pointed out in the opposition that the grant of the KFAB counterproposal would result in the assignment of only one VHF channel in Lincoln which would give the licensee of that station a dominant position in the Lincoln area and could create a monopoly situation. Further it was pointed out that a grant of the KFAB counterproposal would result in the assignment to Omaha of four times as many VHF channels as Lincoln, although the population of Omaha is only 2½ times the population of Lincoln.

Conclusions: The Omaha Educational Reservation

611. On the basis of the record we cannot conclude that the reservation of a VHF channel in Omaha for non-commercial educational use is warranted. No local educational interest offered evidence in support of the reservation of a VHF channel in Omaha for non-commercial educational use. The only evidence of record indicated that the educational interests in Omaha do not intend to use a VHF channel for a non-commercial educational station. On the other hand, commercial interests have made clear their intention of proceeding with the construction and operation of a station in the event that VHF Channel 7 is made available for commercial use. We are, however, in light of the evidence indicating the interest of the educational institutions in Omaha in using a UHF channel for educational purposes, of the view that the record warrants the reservation of a UHF channel in Omaha. Accordingly, VHF Channel 7 is assigned to Omaha for commercial use, and UHF Channel 16 is assigned to Omaha and reserved for non-commercial educational use.

Conclusions: The Lincoln Educational Reservation

612. On the basis of the record, the reservation of UHF Channel 18 for non-commercial educational use in Lincoln is finalized.

Conclusions: Additional VHF Assignments in Omaha

613. We do not believe that the addition of a fourth VHF channel to Omaha at the expense of delet-

[129]The Northwest Broadcasting Company, Fort Dodge, Iowa, proposed to substitute VHF Channel No. 5 for VHF Channel 2 at Vermillion as part of its proposal to add VHF Channel 5 to Fort Dodge, Iowa. The Independent Broadcasting Company, Des Moines, Iowa, proposed to substitute VHF Channel 4 for VHF Channel 2 at Vermillion, as part of its proposal to add VHF Channel 4 to Des Moines. Elsewhere in this Report the Northwest Broadcasting Company and Independent Broadcasting Company counterproposals have been denied.

ing the second VHF channel from Lincoln is warranted. This is especially true in view of our action making available a third commercial VHF channel to Omaha. Accordingly, the request of KFAB[130] for the assignment of Channel 12 to Omaha is denied.

Final Assignments and Reservations

614. The following assignments and reservations are adopted:

City	VHF Channel No.	UHF Channel No.
Lincoln, Nebraska	10,12	*18,24
Omaha, Nebraska	3,6,7	*16,22,28

FORT SMITH AND LITTLE ROCK, ARKANSAS

615. (a) **Proposed Assignments and Reservations.** In the Third Notice the Commission proposed the following assignments and reservations:

City	VHF Channel No.	UHF Channel No.
Fort Smith, Ark.	5	*16,22
Little Rock, Ark.	*2,4,11	17,23

(b) **Census Data.** Fort Smith has a population of 48,000.

(c) **Counterproposal of Southwestern Publishing Company.** Southwestern Publishing Company requested the additional assignment of VHF Channel 8 to Fort Smith, by making the following changes in the assignments proposed in the Third Notice:

City	Third Notice VHF Channel No.	Third Notice UHF Channel No.	Counterproposal VHF Channel No.	Counterproposal UHF Channel No.
Fort Smith, Arkansas	5	*16,22	5,8†	*16,22
Muskogee, Oklahoma	8	39,*45	11†	39,*45

(d) **Statement in Support of Southwestern Publishing Co. Counterproposal.** Southwestern Publishing Company stated that its counterproposal complies with the Commission's standards; that a grant of the counterproposal would not result in a loss of service elsewhere; and that a station operating on Channel 8 at Fort Smith would provide an additional commercial television VHF service in Arkansas and Oklahoma. It was also urged that Arkansas with a population of 1,909,511 as compared to 2,233,351 in Oklahoma has been assigned only 38 channels as compared to 54 channels which have been assigned to Oklahoma.

(e) The counterproposal of Southwestern Publishing Company would result in the following co-channel assignment separations in Zone II:

Channel	Cities	Mileage
11	Muskogee, Okla.-Lawton, Okla.	188
11	Muskogee, Okla.-Little Rock, Ark.	188

(f) **Conflicting Counterproposals to the Southwestern Publishing Company Counterproposal.** The counterproposal of Southwestern Publishing Company is mutually exclusive with the counterproposals of All Oklahoma Broadcasting Company and Southwestern Sales Corp., Tulsa, and KTOK, Inc., Oklahoma City.

(g) **Fort Smith Educational Reservation.** The Fort Smith Public Schools, the Arkansas State Department of Education and the JCET supported the reservation of UHF Channel 16 at Fort Smith for non-commercial educational use. No objection was filed to the reservation.

(h) **Little Rock Educational Reservation.** The JCET, Arkansas State Teachers College, Conway, Arkansas, and the Arkansas State Department of Education supported the reservation of VHF Channel 2 at Little Rock. No objection was made to the reservation.

Conclusions: Educational Reservations

616. In view of the foregoing the proposed reservations for Fort Smith and Little Rock are finalized.

Conclusions: Additional VHF Assignment to Fort Smith

617. A grant of the Southwestern Publishing Company counterproposal would result in a co-channel assignment separation of 188 miles between Muskogee and Little Rock. This separation would be in violation of the minimum co-channel assignment separation requirements in Zone II. The counterproposal must therefore be DENIED.[131]

Final Assignments and Reservations

618. The following assignments and reservations are adopted:

City	VHF Channel No.	UHF Channel No.
Fort Smith, Ark.	5	*16,22
Little Rock, Ark.	*2,4,11	17,23

FAYETTEVILLE, ARKANSAS, EDUCATIONAL RESERVATION

619. **Proposed Reservation.** In the Third Notice the Commission proposed the reservation of Channel 13 in Fayetteville for non-commercial educational use as a primarily educational center. The JCET supported the reservation and stated that the University of Arkansas at Fayetteville was studying the financial, programming, legal, and engineering requirements necessary for the establishment and operation of a television station in cooperation with other educational institutions in the area. The Arkansas State Department of Education also supported the reservation stating that it would cooperate with these educational institutions that would operate a non-commercial educational station in Fayetteville. No oppositions to the proposed reservations were filed.

Conclusions

620. In view of the foregoing, the reservation of Channel 13 in Fayetteville for non-commercial educational use is finalized.

NORMAN, MUSKOGEE, ENID AND STILLWATER, OKLAHOMA, EDUCATIONAL RESERVATIONS

621. (a) **Proposed Assignments and Reservations.** In the Third Notice the Commission proposed the following reservations for non-commercial educational use:

City	Channel
Norman, Oklahoma	*37
Muskogee, Oklahoma	*45
Enid, Oklahoma	*27

No channel was proposed to be reserved in Stillwater for non-commercial educational use.

(b) **Norman.** The University of Oklahoma, Norman, and the Oklahoma Baptist University, Shawnee, Oklahoma, and the JCET supported the reservation of UHF Channel 37 at Norman. The University of Oklahoma stated that it was a pioneer in the field of educational radio broadcasting; and that "a considerable lapse of time must pass before we are fully prepared not only to file for an educational television station but also plan for the installation and operation of such a station on a scale comparable with better commercial operations in this field." While desirous of a reserved VHF channel, the University requested that the reservation of UHF Channel 37 for Norman, Oklahoma, be made final. No objection was filed to the reservation of UHF Channel 37.

(c) **Muskogee.** Northeastern State College, Tahlequah, Oklahoma, and JCET supported the reservation of UHF Channel 45 at Muskogee, Oklahoma. No objection was filed to the proposed reservation.

(d) **Enid.** The JCET supported the reservation of UHF Channel 27 at Enid. No objection was filed to the proposed reservation.

(e) **Stillwater.** Stillwater is the site of the Oklahoma Agricultural and Mechanical College.

(f) In connection with the foregoing proposed reservation of assignments for non-commercial educational use and requests for such reservations, the JCET submitted a resolution of the State Legislature of Oklahoma urging the Commission to reserve such channels in the VHF and UHF as will adequately serve the needs of the State.

Conclusions

622. With respect to the request of the University of Oklahoma for the assignment of a VHF channel to Norman, we have examined the assignments in the area and find that it is impossible to grant the request consistent with the Table of Assignments adopted herein. We must, therefore, deny the request of the University of Oklahoma for the assignment and reservation of a VHF channel for non-commercial educational use in Norman. Accordingly, we are finalizing the reservation of UHF Channel 37 in Norman for non-commercial educational use. With respect to Stillwater, it is our view that an assignment should be made to that city for non-commercial educational use and we are assigning UHF Channel 69 to Stillwater for that purpose. Further, on the basis of the record, we are finalizing the reservations proposed for Muskogee and Enid.

Final Reservations

623. The following reservations are adopted:

City	UHF Channel No.
Norman, Oklahoma	*37
Muskogee, Oklahoma	*45
Enid, Oklahoma	*27
Stillwater, Oklahoma	*69

OKLAHOMA CITY, TULSA AND LAWTON, OKLAHOMA

624. (a) **Proposed Assignments and Reservations.** In the Third Notice the Commission proposed the following assignments and reservations:

City	VHF Channel No.	UHF Channel No.
Oklahoma City, Oklahoma	7,9,*13	19,25
Tulsa, Oklahoma	2,*4,6	17,23
Lawton, Oklahoma	11	*28,34

(b) **Census Data.** The standard metropolitan area of Oklahoma City has a population of 325,000 and the City of Oklahoma City has a population of 244,000. The standard metropolitan area of Tulsa has a population of 252,000 and the City of Tulsa has a population of 183,000. Lawton has a population of 35,000.

(c) **Existing Stations.** WKY Radiophone Company is licensed for the operation of Station WKY-TV on Channel 4 in Oklahoma City. WKY Radiophone Company was ordered to show cause why the license of Station WKY-TV should not be changed to specify Channel 7 in lieu of Channel 4.[132] Cameron Television, Inc., is licensed for the operation of Station KOTV on Channel 6 in Tulsa.

Oklahoma City

625. (a) **Counterproposal of WKY Radiophone Company and Answer to Show Cause Order.** WKY filed an opposition to the Commission's Order to Show Cause and a counterproposal which would permit it to continue operating on Channel 4. The counterproposal of WKY would require the following changes in assignments proposed in the Third Notice:

City	Third Notice VHF Channel No.	Third Notice UHF Channel No.	Counterproposal VHF Channel No.	Counterproposal UHF Channel No.
Muskogee, Oklahoma	8	39,*45	11†	39,*45
Oklahoma City, Okla.	7,9,*13	19,25	4†,7,*13	19,25
Tulsa, Oklahoma	2,*4,6	17,23	2,6,*9†	17,23

(b) **Statement in Support of WKY Counterproposal.** WKY Radiophone Company in its answer to the Commission's Order to Show Cause, and in support of its request, urged that its counterproposal meets the minimum mileage separations for both co-channel and adjacent channel operation with a minimum co-channel separation of 188 miles. It was further stated that there are approximately 92,000 VHF receivers in the WKY-TV service area at the present time, and it was contended

[130] KFAB has claimed the Commission is without power to reserve for educational use channels regularly allocated for general television service. It is not clear whether this objection was directed solely to the proposed reservation of Channel 7 or whether it was directed to the reservation of any channel at all. Insofar as it related to the latter, we have disposed of the contention for the reasons stated in the Commission's decision of July 13, 1951 (FCC 51-709).

[131] It would also create a 188-mile assignment separation between Muskogee and Lawton. This separation would be eliminated by our decision herein shifting Channel 11 from Lawton to Tulsa. In its place, however, would be a 44-mile separation between Tulsa and Muskogee on Channel 11.

[132] On June 25, 1951, WKY filed a petition requesting that the order to show cause be severed from this proceeding and that a formal hearing be held thereon. This petition was dismissed without prejudice as premature by Commission Order (FCC 51-696) of July 11, 1951. In its statement filed in this proceeding on October 15, 1951, WKY stated that if in light of the evidence submitted therein the Commission is not satisfied that the operation of Station WKY-TV should remain on Channel 4, it "renews its Petition heretofore filed and requests the full, complete and fair hearing upon specified issues, to which it is entitled by law and the Commission's Rules and Regulations, prior to the final adoption of any rule or regulation which would preclude the continued operation of WKY-TV on Channel 4."

that if WKY-TV were required to shift to Channel 7, a large number of persons would be compelled to install either new or modified antennas in order to continue to receive service from WKY-TV and that the proposed shift to Channel 7 would result in a disruption of service to the public during the period of conversion. It was also asserted that the cost to the licensee for effecting the change proposed by the Commission would exceed $138,000.

(c) The counterproposal of WKY would result in the following co-channel assignment separations in Zone II:

Channel	Cities	Mileage
11	Muskogee, Okla.-Lawton, Okla.	188
11	Muskogee, Okla.-Little Rock, Ark.	188

(d) **Conflicting Counterproposals.** The counterproposal of WKY is mutually exclusive with that of KTOK, Inc., Oklahoma City, and All Oklahoma Broadcasting Company, and Southwestern Sales Corp., both of Tulsa.

(e) **Counterproposal of KTOK, Inc., Oklahoma City.** KTOK, Inc., requested the assignment of Channel 11 to Oklahoma City by making the following changes in proposed assignments:

City	Third Notice VHF Channel No.	Third Notice UHF Channel No.	Counterproposal VHF Channel No.	Counterproposal UHF Channel No.
Dodge City, Kansas	6	23	4†	23
Elk City, Oklahoma	12	15	8†	15
Lawton, Oklahoma	11	*28,34	12†	*28,34
Oklahoma City, Okla.	7,9,*13	19,25	7,9,11†,*13	19,25
Woodward, Oklahoma	8		6†	

(f) **Statement in Support of KTOK Counterproposal.** KTOK, Inc., stated that Oklahoma City is the capital and largest city of Oklahoma and is centrally located in the state. It was urged that the addition of a VHF channel to Oklahoma City would provide additional television service to 514,470 persons in Central Oklahoma and would provide a net gain of additional television service to substantial number of persons. It was also urged that the co-channel and adjacent channel spacings resulting from a grant of its counterproposal would meet the minimum separations, and that the size and economic importance of Oklahoma City require the assignment of an additional VHF channel.

(g) The KTOK counterproposal would create a 183-mile co-channel separation in Zone II between Woodward, Oklahoma, and Wichita Falls, Texas, on Channel 6. The minimum co-channel station separation for this zone is 190 miles.

(h) **Conflicting Counterproposals to the KTOK Counterproposal.** The counterproposal of KTOK, Inc., is mutually exclusive with the counterproposal of WKY Radiophone Company and the Southwestern Publishing Company, Fort Smith, Arkansas;[132] Southwestern Sales Company and All Oklahoma Broadcasting Company, both of Tulsa.

(i) **The Oklahoma City Educational Reservation.** The Oklahoma Agricultural and Mechanical College, Stillwater, Oklahoma, and JCET supported the reservation of VHF Channel 13 at Oklahoma City. The JCET submitted a resolution of the Legislature of the State of Oklahoma urging the reservation of such channels in the VHF and the UHF as will adequately serve the needs of education. No objection was filed to this proposed reservation.

Tulsa

626. (a) **Counterproposal of All Oklahoma Broadcasting Company.** All Oklahoma Broadcasting Company requested the assignment of Channel 8 to Tulsa by making the following changes in the proposed assignments:

City	Third Notice VHF Channel No.	Third Notice UHF Channel No.	Counterproposal VHF Channel No.	Counterproposal UHF Channel No.
Muskogee, Oklahoma	8	39, *45	†11	39, *45
Tulsa, Oklahoma	2, *4, 6	17, 23	2, *4, 6, †8	17, 23

(b) **Statement in Support of All Oklahoma Counterproposal.** All Oklahoma Broadcasting Company urged that Tulsa is a large metropolitan area which serves as the trade, service, entertainment and cultural center for eastern Oklahoma and adjoining areas of Kansas, Missouri, and Arkansas; that Tulsa has experienced the largest growth of any city in Oklahoma in the 10 year period since the 1940 census; that the assignment of Channel 11 to Muskogee and Channel 8 to Tulsa would meet the Commission's requirements; and that under the counterproposal, an additional channel and service would be provided to Tulsa with no reduction in the service which would be afforded under the Third Notice. It was urged that the grant of the counterproposal would provide a more fair, efficient and equitable distribution of television facilities than does the Commission's plan.

(c) The All Oklahoma counterproposal would create the following co-channel separations in Zone II below 190 miles:

Channel	Cities	Mileage
11	Muskogee, Okla.-Lawton, Okla.	188
11	Muskogee, Okla.-Little Rock, Ark.	188

(d) **Conflicting Counterproposal to All Oklahoma Broadcasting Company Counterproposal.** The counterproposal of All Oklahoma Broadcasting Company is mutually exclusive with that of WKY Radiophone Company, and KTOK, Inc., Oklahoma City; Southwestern Sales Company, Tulsa; and Southwestern Publishing Company, Fort Smith, Arkansas.

(e) **Counterproposal of Southwestern Sales Corporation.** Southwestern Sales Corporation has requested the assignment of Channel 11 to Tulsa by making the following changes in the proposed assignments:

City	Third Notice VHF Channel No.	Third Notice UHF Channel No.	Counterproposal VHF Channel No.	Counterproposal UHF Channel No.
Elk City, Oklahoma	12	15	†11	15
Lawton, Oklahoma	11	*28, 34	†12	*28, 34
Tulsa, Oklahoma	2, *4, 6	17, 23	2, *4, 6, †11	17, 23

(f) **Statement in Support of Southwestern Sales Counterproposal.** Southwestern Sales Corp., Tulsa, Oklahoma, urged that the size, industrial development and strategic location of Tulsa evidenced the need of that community for an additional VHF channel. It was also urged that the additional VHF channel may be assigned to Tulsa without violating the Commission's minimum mileage separation requirements.

(g) The counterproposal of Southwestern Sales would create a 187 mile co-channel separation on Channel 11 between Elk City, Oklahoma, and Lubbock, Texas, in Zone II.

(h) **Conflicting Counterproposals to Southwestern Sales Corp. Counterproposal.** The counterproposal of Southwestern Sales Corp. is mutually exclusive with the counterproposals of WKY Radiophone Company; Southwestern Publishing Company, Fort Smith, Arkansas;[134] KTOK, Inc., Oklahoma City and All Oklahoma Broadcasting Company, Tulsa.

(i) **The Tulsa Educational Reservation.** The JCET supported the reservation and submitted a resolution of the Legislature of the State of Oklahoma urging the Commission to reserve such channels in the VHF and the UHF as will adequately serve the needs of education. No objection was made to the proposed reservation.

(j) **The Lawton Educational Reservation.** The JCET and the State Department of Public Instruction supported the reservation of Channel 28 in Lawton for non-commercial educational use. No oppositions to this reservation were filed.

Conclusions: Additional Assignment to Oklahoma City, Tulsa, and the WKY Counterproposal

627. The foregoing conflicting counterproposals consist of (1) a request by WKY Radiophone Company to retain Channel 4 presently licensed to WKY-TV, (2) requests by various parties seeking the addition of a fourth VHF assingment to Tulsa, and (3) a request seeking a fourth VHF assignment to Oklahoma City.

628. The WKY counterproposal would create a co-channel assignment separation below the adopted 190 mile minimum for Zone II. The distance between Muskogee and Little Rock is 188 miles.[135] The KTOK counterproposal would create one co-channel assignment separation below the minimum on Channel 6 between Woodward, Oklahoma and Wichita Falls, Texas. The distance between these communities is 183 miles. The All Oklahoma counterproposal would create the same separation below the minimum as would the WKY counterproposal.[135] The Southwestern Sales Corp. counterprosal would create one co-channel assignment separation below the minimum between Elk City, Oklahoma and Lubbock, Texas, on Channel 11 of 187 miles. Since the counterproposals of the All Oklahoma Broadcasting Company; KTOK Inc.; Southwestern Sales Corporation; and WKY Radiophone Company would result in co-channel separations below the minimum provided by our decision herein, they are denied.

Conclusions: WKY Show Cause Order

629. Although we are unable to grant the WKY counterproposal, the question remains whether the authorization for WKY-TV should be changed to specify operation on Channel 7 as proposed in the Third Notice. The Order to Show Cause was issued to WKY in an effort to "reduce interference, make available a reasonable number of channels and to effect the maximum utilization of VHF television channels." It was believed that the assignment of Channel 4 in Tulsa instead of Oklahoma City would effect a more desirable utilization of the spectrum. It is true, however, that the assignment of Channel 4 in Oklahoma City would meet all required mileage spacings for Zone II. For example, the closest co-channel assignment separation to WKY-TV on Channel 4 would be Station KRLD-TV operating in Dallas, Texas, at a distance of 196 miles.

630. We have in this proceeding followed the principle that we would not compel an existing licensee to change frequencies except for compelling considerations such as the removal of a very low mileage separation. In view of the circumstances discussed above, and upon reconsideration of the whole record, we do not believe that WKY should be required to change frequencies. Accordingly, we have assigned Channel 4 to Oklahoma City, and are withdrawing the Show Cause Order to WKY. If the assignment of Channel 4 is maintained in Oklahoma City, the assignment of Channel 4 in Tulsa must be deleted, since Tulsa and Oklahoma City are only 98 miles apart. However, Channel 4 can be replaced in Tulsa

[132] The counterproposal of the Southwestern Publishing Company at Fort Smith, Arkansas, is denied elsewhere in this Report for the reasons there stated.

[134] WREC Broadcasting Service and WMPS, Inc., both of Memphis, Tenn., have requested the assignment of a fourth VHF channel to Memphis, in alternate counterproposals. The first counterproposal requested the deletion of Channel 3 from Blytheville, Arkansas, and the assignment of that channel to Memphis. The second alternative counterproposal requested 19 VHF changed assignments in 14 cities and 5 states. This second alternative counterproposal is in conflict with the counterproposals of the Tulsa, Oklahoma City and Fort Smith parties. In view of our decision elsewhere in this Report to grant the first alternative request to delete Channel 3 from Blytheville and the assignment of that channel to Memphis, we will not discuss the second alternative counterproposal of WREC and WMPS further in this connection. In addition, the counterproposal of Sherman Television Company, Sherman, Texas, is in conflict with the counterproposal of Southwestern Sales Corporation. In view of our decision elsewhere in this Report to deny the counterproposal of Sherman Television Company, that counterproposal will not be discussed further in this connection.

[135] It would also create a 188 mile assignment separation between Muskogee and Lawton. This separation would be eliminated by our decision herein shifting Channel 11 from Lawton to Tulsa. In its place, however, would be a 46 mile separation between Tulsa and Muskogee on Channel 11.

by shifting Channel 11 from Lawton to Tulsa. In turn, Channel 11 in Lawton can be replaced by shifting Channel 7 from Oklahoma City to Lawton. The assignment of Channel 7 in Lawton and Channel 11 in Tulsa would meet the required minimum assignment separations for Zone II. Accordingly, Channel 4 will be deleted from Tulsa and assigned to Oklahoma City; Channel 11 will be deleted from Lawton and assigned to Tulsa; and Channel 7 will be deleted from Oklahoma City and assigned to Lawton.

Conclusions: Educational Reservation in Tulsa

631. We are of the view that the record supports the basis for reserving a channel in Tulsa for noncommercial educational use in Tulsa. In the Third Notice the Commission proposed that Channel 4 be so reserved. However, as noted above, Channel 4 must be deleted from Tulsa in light of our decision to withdraw the order to show cause to WKY. It was also noted above that VHF Channel 11 is being assigned in Tulsa to replace Channel 4. Accordingly, VHF Channel 11 will be reserved for non-commercial educational use in Tulsa.

Conclusions: Educational Reservation in Oklahoma City and Lawton

632. On the basis of the record the reservations of Channel 13 in Oklahoma City and Channel 28 in Lawton for non-commercial educational use are finalized.

Final Assignments and Reservations

633. The following assignments and reservations are adopted:

City	VHF Channel No.	UHF Channel No.
Oklahoma City, Okla.	4, 9, *13	19, 25
Tulsa, Okla.	2, 6, *11	17, 23
Lawton, Okla.	7	*28, 34

MEMPHIS, TENNESSEE, AND BLYTHEVILLE, ARKANSAS

634. (a) **Proposed Assignments and Reservation.** In the Third Notice the Commission proposed the following assignments and reservation:

City	VHF Channel No.	UHF Channel No.
Blytheville, Arkansas	3	64
Memphis, Tennessee	5, *10, 13	42, 48

(b) **Census Data.** The standard metropolitan area of Memphis has a population of 482,000 and the City of Memphis has a population of 396,000. The City of Blytheville has a population of 16,000.

(c) **Existing Stations.** Memphis Publishing Company is licensed for the operation of Station WMCT at Memphis on Channel 4. The Commission ordered the Memphis Publishing Company to show cause why the license of WMCT should not be modified to specify operation on Channel 5 in lieu of Channel 4. No opposition to the Commission's Show Cause Order was filed by Memphis Publishing Company.

(d) **Alternative Counterproposal of Hoyt B. Wooten d/b as WREC Broadcasting Service and WMPS, Inc.** WREC Broadcasting Service and WMPS, Inc., requested the additional assignment of a VHF channel to Memphis in two alternative counterproposals. In the first alternative counterproposal it was requested that VHF Channel 3 be deleted from Blytheville and assigned to Memphis, and that UHF Channels 17 and 23 be assigned to Blytheville in place of Channel 3 as follows:

City	Third Notice VHF Channel No.	Third Notice UHF Channel No.	Counterproposal I VHF Channel No.	Counterproposal I UHF Channel No.
Blytheville, Ark	3	64	†	†17, †23, 64
Memphis, Tenn.	5, *10, 13	42, 48	†3, 5, *10, 13	42, 48

(e) **Statement in Support of WREC and WMPS Counterproposal I.** WREC and WMPS urged that the size, population and economic importance of Memphis warranted the addition of a VHF channel and that Channel 3 could be assigned to Memphis without violating any of the Commission's standards for minimum separation of co-channel or adjacent channel assignments. It was pointed out that the nearest assignment of Channel 3 would be at Jackson, Mississippi, a distance of 197 miles from Memphis; that more than half the population that would be served by the operation of Channel 3 at Blytheville resides in the State of Tennessee in areas which have no common identity of interest with Blytheville; that Memphis is a vastly more important economic market than Blytheville and that the rural population surrounding Blytheville are more dependent on Memphis than upon Blytheville; and that it was unlikely that the assignment of Channel 3 in Blytheville would result in the operation of that facility with maximum power. Finally, it was asserted that the operation of the UHF channel in Blytheville would be adequate to serve the needs of that community for television service.

(f) **Opposition to WREC and WMPS Counterproposal I.** Harold L. Sudbury, Blytheville, Arkansas, supported the assignments proposed by the Commission for Blytheville and opposed the Memphis counterproposal. In the opposition it was stated that Blytheville is situated in a large farming and rural area and would be best served by a lower VHF channel; that because of the rural area, extensive coverage was required in order to reach several hundred thousand persons; that no showing had been made by the Memphis parties of a need for the specific use of Channel 3 at Memphis; and that the assignments proposed by the Commission would result in a fair and equitable distribution of the available frequencies.

(g) **Alternative Counterproposal 2 of WREC and WMPS.** In alternative counterproposal 2 WREC Broadcasting Service and WMPS, Inc. requested the addition of a VHF channel to Memphis by making the following changes in the assignments proposed in the Third Notice:

City	Third Notice VHF Channel No.	Third Notice UHF Channel No.	Counterproposal 2 VHF Channel No.	Counterproposal 2 UHF Channel No.
Blytheville, Ark.	3	64	†13	64
El Dorado, Ark.	10	26	†7	26
Fort Smith, Ark.	5	*16, 22	†11	*16, 22
Hot Springs, Ark.	9	52	†12	52
Jonesboro, Ark.	8	39	†4	39
Little Rock, Ark.	*2, 4, 11	17, 23	†*3, †5, †8	17, 23
Pine Bluff, Ark.	7	36	†10	36
Alexandria, La.	11, 13		†8, 13	
Monroe, La.	8	43	†4	43
Shreveport, La.	3, 12		†2, †11	
State College, Miss.	*2		†*4	
Jackson, Tenn.	9	16	†10	16
Memphis, Tenn.	5, *10, 13	42, 48	†2, †7, †*9, †11	42, 48
Tyler, Texas	7	19	†12	19

The alternative counterproposal of WREC and WMPS would result in the following co-channel separations in Zone II:

Channel	Cities	Mileage
3	Little Rock, Ark.-Springfield, Mo.	180
8	Little Rock, Ark.-Muskogee, Okla.	188
10	Jackson, Tenn.-Birmingham, Ala.	184

(h) **Oppositions and Conflicting Counterproposals to WREC and WMPS Alternative Counterproposal 2.** Oppositions and mutually exclusive counterproposals to the alternative counterproposals of WREC Broadcasting Service and WMPS, Inc., were filed by the following parties: Southwestern Publishing Co., Fort Smith, Arkansas; Voice of Longview, Longview, Texas; Memphis Publishing Company, Memphis, Tennessee; WKY Radiophone Co., Oklahoma City, Oklahoma; Harold L. Sudbury, Blytheville, Arkansas; KTOK, Inc., Oklahoma City, Oklahoma; All Oklahoma Broadcasting Co., Tulsa, Oklahoma; and Southwestern Sales Corporation, Tulsa, Oklahoma.

(i) **The Memphis Educational Reservation.** The Board of Education of the Memphis City Schools, The Memphis Chamber of Commerce, Shelby County Department of Education, Southwestern University and the JCET supported the reservation of VHF Channel 10 in Memphis for use by a noncommercial educational station. The JCET stated that an educational television committee had been formed in Memphis and the Mayor of Memphis had appointed the President of the Board of Education of the Memphis City Schools as its Chairman in April, 1951. The Board of Education of the Memphis City Schools stated that it was using television to some extent in the schools and that the necessary finances would become available in the near future. No objection was filed to the proposed reservation.

Conclusions: Memphis Education Reservation

635. On the basis of the record the reservation of Channel 10 in Memphis for non-commercial educational use is finalized.

Conclusions: Additional Assignment to Memphis

636. It is our view that the record supports the basis for the assignment of a third commercial VHF channel to the Memphis area. We believe that the size, population and economic importance of the City of Memphis warrant this additional assignment. It has been proposed that this be accomplished by the deletion of VHF Channel 3 from Blytheville, a community of approximately 16,000 persons and the substitution of a UHF channel in that community. In view of the relative size, population and economic importance and resources of the City of Memphis as compared with the City of Blytheville, we believe the record supports the basis for the deletion of Channel 3 from Blytheville and the assignment of that channel to Memphis. The second alternative counterproposal would result in three co-channel separations below the minimum adopted for Zone II and must be denied.

637. WREC and WMPS suggested the assignment of UHF Channels 17 and 23, in addition to Channel 64 proposed for Blytheville in the Third Notice, to Blytheville to replace VHF Channel 3. It is our view, however, that 2 UHF channels are adequate to meet the needs of the Blytheville community. Further, since the assignment of either Channel 17 or 23 would result in a co-channel assignment spacing below the minimum for Zone II we are making UHF Channel 74 available to Blytheville.

638. Accordingly, the first alternative counterproposal of Hoyt B. Wooten d/b as WREC Broadcasting Service and WMPS, Inc. is granted, insofar as it requests the assignment of Channel 3 to Memphis and the second alternative counterproposal is denied.

Conclusions: Show Cause Order

639. An appropriate authorization will be issued to Memphis Publishing Company to specify operation of WMCT on Channel 5.

Final Assignments and Reservation

640. The following assignments and reservation are adopted:

City	VHF Channel No.	UHF Channel No.
Blytheville, Ark.		64, 74
Memphis, Tenn.	3, 5, *10, 13	42, 48

TEMPLE, TEXAS

641. (a) **Proposed Assignments.** In the Third Notice the Commission proposed the assignment of two channels to Temple: UHF Channels 16 and 22.

(b) **Census Data.** The population of Temple is 25,000.

(c) **Counterproposal of Bell Broadcasting Company.** Bell Broadcasting Company, Temple, Texas, requested the additional assignment of Channel 6 to Temple. No other changes in the assignments proposed in the Third Notice were requested.

(d) **Statement in Support of Bell Broadcasting Company Counterproposal.** Bell Broadcasting Company contended that since the closest cities to Temple having VHF assignments under the Third Notice are Waco, 30 miles to the north, and Austin, 61 miles to the south, Temple would not receive reliable VHF service. It was pointed out that Fort Hood, containing approximately 35,000 military personnel, was located in the western portion of Bell County, 25 miles from Temple and that Temple contains several large private hospitals, in addition to a large veterans hospital. It was also con-

tended that a UHF channel would not be adequate to cover the entire Temple trading area and that a VHF facility was, therefore, necessary.

(e) Channel 6 at Temple would be 183 miles from the co-channel assignment at San Angelo, Texas. Both Temple and San Angelo are situated in Zone II.

(f) **Conflicting Counterproposals and Oppositions to the Bell Broadcasting Company Counterproposal.** The Bell Broadcasting Company counterproposal does not conflict with any other counterproposal nor have any oppositions been filed thereto.

Conclusions

642. The counterproposal of Bell Broadcasting Company would assign Channel 6 to Temple, at a distance of only 183 miles from the assignment of Channel 6 at San Angelo. Since both Temple and San Angelo are located within Zone II, the counterproposal does not meet the 190 mile minimum assignment separation. Accordingly, the counterproposal of Bell Broadcasting Company is denied.

Final Assignments

643. The following assignments are adopted:

City	UHF Channel No.
Temple	16, 22

BRECKENRIDGE, TEXAS

644. (a) **Proposed Assignments.** In the Third Notice the Commission proposed the assignment of one channel, UHF Channel 14, to Breckenridge.

(b) **Census Data.** The population of Breckenridge is 7,000.

(c) **Counterproposal of Stephens County Broadcasting Company.** Stephens County Broadcasting Company, Breckenridge, requested the additional assignment of Channel 7 to Breckenridge. This counterproposal conflicted with the counterproposal of Trinity Broadcasting Corporation, Dallas, Texas, and an opposition thereto was filed by the Trinity Broadcasting Corporation. Sworn evidence in support of the Stephens County Broadcasting Company, which in accordance with Paragraph 10 of the Order of Hearing Procedure (FCC 51-739) issued in the proceeding was due on October 15, 1951, was not timely filed. On February 1, 1952, Stephens County Broadcasting Company filed a "petition for leave to file late statement and exhibit" in support of its counterproposal. It was alleged therein that "Due to a misunderstanding of the procedure adopted by the Commission in its Order of July 25, 1951, [its] consultant did not prepare the necessary supporting data until a very recent date." It was urged that the filing of sworn evidence at this late date would not unduly retard the instant proceeding nor prejudice any parties thereto.

Conclusions

645. We are of the view that the aforesaid petition does not make the requisite showing of good cause for the acceptance of sworn evidence filed more than three months late. The petition for late filing is therefore denied and the sworn evidence in support of the Stephens County Broadcasting Company is not accepted in this proceeding. In light of our above action, no sworn evidence in support of the counterproposal is before us and, accordingly, this counterproposal and the opposition relating thereto will not be considered further in this Report.

Final Assignments

646. The following assignment is adopted:

City	UHF Channel No.
Breckenridge, Texas	14

SHERMAN, DENISON AND DENTON, TEXAS

647. (a) **Proposed Assignments and Reservation.** In the Third Notice the Commission proposed the following assignments and reservation:

City	VHF Channel No.	UHF Channel No.
Sherman		46
Denison		52
Denton	*2	17

(b) **Census Data.** The population of Sherman is 20,000, the population of Denison is 18,000 and the population of Denton is 21,000.

Sherman

648. (a) **Counterproposal of Sherman Television Company.** Sherman Television Company, Sherman, requested the additional assignment of VHF Channel 12 to Sherman. No other changes in the assignments proposed in the Third Notice were requested.

(b) **Statement in Support of Counterproposal of Sherman Television Company.** Sherman Television Company contended that the Sherman area would probably not receive VHF service under the Third Notice since it is not located near any city to which the Commission has proposed the assignment of VHF channels. It was alleged that the proposed VHF facility in Sherman would serve "well over 100,000 people," and that during the summer vacation period this number would be materially increased.

(c) Under the Sherman counterproposal, Channel 12 at Sherman would be 183 miles from Shreveport, Louisiana. Both Sherman and Shreveport are situated within Zone II.

(d) **Conflicting Counterproposals and Oppositions to the Sherman Television Company Counterproposal.** The Sherman Television Company counterproposal conflicts with the counterproposals of KTOK, Inc., Oklahoma City, Oklahoma, and Voice of Longview, Longview, Texas. In addition, an opposition to the Sherman Television Company counterproposal was filed by KTOK, Inc.

Denison

649. (a) **Counterproposals of Red River Valley Broadcasting Corporation and Red River Publishing Company.** Counterproposals were filed by Red River Valley Broadcasting Corporation and Red River Valley Publishing Company, both of Sherman, requesting the additional assignment of VHF Channel 10 to Sherman-Denison, to be accomplished by substituting a UHF channel for VHF Channel 2 in Denton and by making the following other changes from the assignments proposed in the Third Notice:

City	Third Notice: VHF Channel No.	Third Notice: UHF Channel No.	Proposed Changes: VHF Channel No.	Proposed Changes: UHF Channel No.
Sherman, Texas		46		†
Denison, Texas		52		†
Denton, Texas	*2	17	†	†*46, †52
Sherman-Denison, Texas			†10	†17
Fort Worth, Texas	5, 10	20, *26	†2, 5	20, *26
Waxahachie, Texas		45		†63
Hillsboro, Texas		63		†45
Weatherford, Texas		51		†54

(b) **Statement in support of the Red River Valley Broadcasting Corporation and the Red River Valley Publishing Company Counterproposals.** Red River Valley Broadcasting Corporation and Red River Valley Publishing Company noted that Denison, Texas, is located approximately eight miles from Sherman and contended that Sherman and Denison are situated so closely together they should be considered as one area. It was submitted that Sherman-Denison contains the largest concentration of population in northern Texas, and that with the exception of Dallas, located about 60 miles to the south, and Fort Worth farther to the southwest, there are no major population centers within 125 miles of Sherman-Denison. It was urged that the assignment of a VHF channel rather than a UHF channel to Sherman-Denison would result in service to a larger portion of the trade area. It was alleged that a UHF station would serve 100% of the Denton trade area as compared with only 81.2% of the Sherman-Denison trade area, while a VHF assignment would serve 94.8% of the Sherman-Dension area.

(c) The assignment of Channel 10 to Sherman-Denison would be accomplished by substituting UHF Channel 46 in Denton for VHF Channel 2, where it is reserved for non-commercial educational use, and by substituting Channel 2 in Fort Worth for Channel 10; Channel 63 in Waxahachie for Channel 45; and Channel 45 in Hillsboro for Channel 63. It was noted by Red River Valley that these changes would result in two UHF channels widely spaced in the spectrum, Channels 17 and 46, being assigned to Denton. It was suggested that instead Channels 46 and 52 could be assigned to Denton by substituting Channel 52 in Denton for Channel 17; Channel 17 in Sherman-Denison for Channel 52; and Channel 54 in Weatherford, Texas, for Channel 51.

(d) Denison is 172 miles from Tulsa, Oklahoma, where Channel 17 is assigned. Weatherford is 169 miles from Bryan, Texas, where Channel 54 is assigned. Denison and Weatherford are situated within Zone II, and Bryan is situated within Zone III.

(e) **Conflicting Counterproposals and Oppositions to the Red River Valley Broadcasting Corporation and the Red River Valley Publishing Company Counterproposals.** The Red River Valley counterproposals conflict with the Trinity Broadcasting Corporation counterproposals for Dallas, Texas; and oppositions thereto have been filed by the Trinity Broadcasting Corporation and the Houston Post Company, Houston, Texas.

Denton

650. **The Denton Educational Reservation.** VHF Channel 2 was reserved by the Third Notice for non-commercial educational use in Denton as a "primarily educational center." North State Texas College of Denton filed a statement supporting the above reservation noting that the College was interested in television as a medium for general public instruction and that the Board of Regents had pledged its support in this endeavor. The JCET also filed a statement supporting the reservation including within its presentation a statement of the Texas State College for Women at Denton indicating that it would support and participate in the establishment of a non-commercial educational station at Denton.

Conclusions: Additional Assignment of Channel 12 in Sherman

651. The Sherman Television Company counterproposal would assign Channel 12 to Sherman at a distance of only 183 miles from Shreveport, Louisiana. Since both Sherman and Denison are situated within Zone II, this assignment would violate the required 190 mile minimum assignment separation for this zone. Accordingly, the Sherman Television Company counter proposal is denied.

Conclusions: The Denton Educational Reservation and Channel 10 in Sherman-Denison

652. In order to accomplish the assignment of Channel 10 in Sherman-Denison, the Red River Valley Broadcasting Company and Red River Valley Publishing Company counterproposals would substitute UHF Channel 46 in Denton for VHF Channel 2 reserved for non-commercial educational use. VHF Channel 2 was assigned and reserved in Denton as a "primarily educational center." As noted elsewhere in this Report, we have as an assignment principle, assigned VHF channels to primarily educational centers where VHF channels were available. We see no reason, on the basis of the record in this proceeding, for deviating from this principle in order to make possible the assignment of a VHF channel in Sherman-Denison. We are of the view, therefore, that Channel 2 should not be deleted from Denton. Furthermore, the suggested changes in order to assign UHF Channels 46 and 52 to Denton instead of UHF Channels 17 and 46 would require violations of minimum assignment separation requirements. In order to make the above assignments, Channel 54 would be assigned to Weatherford and Channel 17 to Sherman-Denison. Weatherford is only 169 miles from Bryan where Channel 54 is also assigned and Denison is only 172 miles from Tulsa where Channel 17 is also assigned. All of the above communities are situated in Zone II and accordingly the proposed assignments would not meet the 175 mile minimum separation required for UHF co-channel assignments in this Zone. The counterproposals of Red River Valley Broadcasting Corporation and Red River Valley Publishing Company are therefore denied.

Final Assignments and Reservation

653. The following assignments and reservation are adopted:

City	VHF Channel No.	UHF Channel No.
Sherman, Texas		46
Denison, Texas		52
Denton, Texas	*2	17

LONGVIEW, TEXAS

654. (a) **Proposed Assignments.** In the Third Notice the Commission proposed the assignment of two UHF channels to Longview, Texas: Channels 32 and 38.

(b) **Census Data.** The population of Longview is 25,000.

(c) **Counterproposal of Voice of Longview.** Voice of Longview, Longview, Texas, requested the assignment of VHF Channel 12 to Longview, by substituting Channel 10 in Shreveport, Louisiana, for Channel 12, Channel 5 in El Dorado, Arkansas, for Channel 10, as follows:

	Third Notice		Proposed Changes	
City	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.
Longview, Texas		32, 38	†12	32, 38
Shreveport, La.	3, 12		3, †10	
El Dorado, Ark.	10	26	†5	26

(d) **Statement in Support of Voice of Longview Counterproposal.** Voice of Longview urged that the assignment of Channel 12 to Longview could be accomplished without depriving any other community of a television assignment. It was suggested that as an alternative to assigning Channel 12 to Longview, Channel 32 or 38, presently proposed for Longview in the Third Notice, could be assigned to either Gilmer or Tatum, Texas, communities near Longview. Voice of Longview contended that wherever possible at least one VHF channel should be assigned to each community.

(e) The Voice of Longview counterproposal would assign Channel 5 to El Dorado, Arkansas, 182 miles from the co-channel assignment of Channel 5 at Fort Smith, Arkansas. Both El Dorado and Fort Smith are situated within Zone II.

(f) **Conflicting Counterproposals and Oppositions to the Voice of Longview Counterproposal.** Conflicting counterproposals and oppositions to the Voice of Longview counterproposal were filed by East Texas Television Company, Longview, Texas; Lamar Life Insurance Company, Jackson, Mississippi; and Sherman Television Company, Sherman, Texas.

(g) In its opposition, East Texas Television Company opposed any removal of UHF Channel 32 or 38 from Longview for assignment to Tatum or Gilmer. It was noted that the town of Tatum has a population of 599 persons; that it has less than 10 retail stores; and that Tatum cannot support a television station. The Gilmer population was alleged to be 4,114, and it was urged that this community also does not possess the economy necessary to maintain a television facility. It was also noted that neither Tatum nor Gilmer has an AM or FM outlet. In addition to the foregoing, International Broadcasting Corporation, Shreveport, Louisiana, supported the proposed assignments for Shreveport, including the assignment of Channel 12 but has not specifically opposed the Voice of Longview's request to substitute Channel 10 in Shreveport.

(h) **Counterproposal of East Texas Television Company.** East Texas Television Company requested the additional assignment of Channel 9 to Longview by substituting Channel 10 in Lufkin for Channel 9 as follows:

	Third Notice		Proposed Changes	
City	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.
Longview, Texas		32, 38	†9	32, 38
Lufkin, Texas	9	46	†10	46

(i) **Statement in Support of East Texas Television Company Counterproposal.** East Texas Television Company stated that within an area of 25 miles of Longview is a population of 121, 492 and 38,985 housing units, and that Lufkin, on a comparable basis, has a population of 55,447 and 17,041 housing units. It was contended that Longview, and its trade area, is able economically to support a VHF television broadcast facility while there is "serious and grave doubts that the Lufkin area could so support one." It was urged that a VHF television station in Longview would reach a large population in East Texas which would not receive such service from any other station proposed in the Third Notice. East Texas submitted that the public interest, convenience and necessity requires the assignment of a VHF television assignment in this area. It was urged that Channel 10 in Lufkin would be adequate to provide service to that community.

(j) The East Texas Television Company would utilize Channel 9 in Longview co-channel with Hot Springs, Arkansas. East Texas Television Company alleged that the distance between these cities was 176 miles but gave no indication as to how this measurement was obtained and it appears to be in error. Forest Capital Broadcasting Company, in its opposition, alleged that the distance between Longview and Hot Springs is 168 miles. We find the distance to be approximately 170 miles. Channel 10 at Lufkin would be 176 miles from the co-channel assignment of Channel 10 at El Dorado, Arkansas, and 180 miles from the co-channel assignment of Channel 10 at Fort Worth, Texas. All of the above cities are in Zone II with the exception of Lufkin, which is in Zone III.

(k) **Conflicting Counterproposals and Oppositions to the East Texas Television Company Counterproposal.** The counterproposal of East Texas Television Company conflicts with the counterproposal of Trinity Broadcasting Corporation, Dallas, Texas. Oppositions to the East Texas Television counterproposal have been filed by Trinity Broadcasting Corporation; Julius M. Gordon & Associates, Inc., Lufkin, Texas; and Forest Capital Broadcasting Co., Lufkin, Texas.

Conclusions: Voice of Longview Counterproposal

655. The Voice of Longview counterproposal in assigning Channel 12 to Longview would assign Channel 5 at El Dorado, Arkansas, only 182 miles from the co-channel assignment at Fort Smith, Arkansas. Since both El Dorado and Fort Smith are situated in Zone II, this assignment would not meet the required 190 mile minimum separation for co-channel assignments in this Zone. Accordingly, the Voice of Longview counterproposal is denied.

Conclusions: East Texas Television Company Counterproposal

656. The East Texas Television Company counterproposal would assign Channel 9 in Longview at a distance of only 170 miles from Hot Springs, Arkansas, where this channel is assigned. This distance is well below the required 190 mile minimum separation for co-channel assignments in Zone II where these communities are situated. In addition, in achieving the assignment of Channel 9 in Longview, East Texas Television Company would assign Channel 10 in Lufkin at a distance of only 176 miles from the co-channel assignment at El Dorado, Arkansas, and 180 miles from the co-channel assignment at Fort Worth, Texas. Lufkin is situated in Zone III and Fort Worth and El Dorado in Zone II. Accordingly, the counterproposal does not meet the 190 mile minimum co-channel assignment separation. In light of the above violations of the minimum separation requirements, the East Texas Television Company counterproposal is denied.

Final Assignments

657. The following assignments are adopted:

City	UHF Channel No.
Longview, Texas	32, 38

SAN ANTONIO AND VICTORIA TEXAS

658. (a) **Proposed Assignments and Reservations.** In the Third Notice the Commission proposed the following assignments and reservations:

City	VHF Channel No.	UHF Channel No.
San Antonio, Texas	4, 5, *9, 12	35, 41
Victoria, Texas		19

(b) **Census Data.** The population of the San Antonio standard metropolitan area is 500,000 and of the City of San Antonio, 408,000. The population of Victoria is 16,000.

(c) **Existing Stations.** San Antonio Television Company is licensed for the operation of Station KEYL on Channel 5 and Southland Industries, Inc., is licensed for the operation of Station WOAI-TV on Channel 4, both in San Antonio, Texas.

(d) **Counterproposal of Lack's Stores, Inc.** Lack's Stores, Inc. requested the additional assignment of VHF Channel 12 to Victoria by substituting UHF Channel 23 in San Antonio for Channel 12, as follows:

	Third Notice		Counterproposal	
City	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.
San Antonio, Texas	4, 5, *9, 12	35, 41	4, 5, *9, †	†23, 35, 41
Victoria, Texas		19	†12	19

(e) **Statement in Support of Lack's Stores, Inc. Counterproposal.** Lack's Stores, Inc. alleged that the nearest VHF assignments under the Commission's plan were proposed for Corpus Christi, San Antonio, Galveston and Houston, all at least 75 miles from Victoria. It was noted that these cities form a triangle, with Victoria roughly in the center; and, accordingly, it was submitted that large areas surrounding Victoria would not receive reliable VHF service under the Commission's plan. It was urged that UHF would not be adequate, and that a UHF facility would not be utilized in Victoria in the foreseeable future. It was contended, accordingly, that a maximum need for VHF service exists in Victoria. It was noted that the removal of one of the channels from San Antonio would still leave this city and its surrounding area with three VHF services.

(f) **Conflicting Counterproposals and Oppositions to Lack's Stores, Inc., Counterproposal.** No conflicting counterproposals have been filed. Oppositions to the counterproposal of Lack's Stores, Inc., have been filed by Texas State Network, Inc.,[158] and the Walmac Company, both of San Antonio.

(g) **Educational Reservation in San Antonio.** St. Mary's University of San Antonio filed a statement in support of the reservation of Channel 9 in San Antonio for non-commercial educational use. The University stated that it was presently cooperating with the two commercial stations in San Antonio in providing programs of an educational nature. It was noted that while the University had no definite solution for the problem of financing, it proposed to work with other educational groups to find a means of establishing an educational television station. Additional support for the reservation was submitted by Our Lady of the Lake College at San Antonio. No oppositions to the proposed reservation were filed.

Conclusions: Additional VHF Assignment for Victoria

659. We are of the view that the record does not support the basis for assigning VHF Channel 12 to Victoria at the expense of deleting a VHF channel from San Antonio. In light of the wide disparity in population between San Antonio and Victoria, a community of 16,000, we do not believe such an assignment would be warranted. Accordingly, the counterproposal of Lack's Stores, Inc., is denied.

Conclusions: Educational Reservation in San Antonio

660. On the basis of the record the reservation of Channel 9 in San Antonio for non-commercial educational use is finalized.

Final Assignments and Reservation

661. The following assignments

[158] On November 6, 1951, Texas State Network, Inc., Fort Worth, Texas, filed a Motion to Strike the statement of Lack's Stores, Inc., filed October 15, 1951, in support of its May 7, 1951 comments, alleging that the October 15, 1951 statement constituted a new proposal departing from the May 7, 1951 comment and therefore not in conformity with Paragraph 5(b) of the Order of Hearing Procedure of July 25, 1951. The May 7, 1951 Comment of Lack's Stores, Inc., proposed the assignment of VHF Channel 12 in Victoria, Texas, rather than to San Antonio, Texas, and the engineering affidavit attached thereto stated "it is anticipated that an additional UHF facility can be made available to San Antonio to replace the VHF facility removed." In its sworn statement of October 15, 1951, Lack's Stores, Inc., proposed the assignment of VHF Channel 12 to Victoria instead of San Antonio with UHF Channel 23 to replace the deletion of Channel 12 at San Antonio. The engineering affidavit attached thereto supports this assignment. On November 13, 1951, Lack's Stores, Inc., filed an opposition to the Motion to Strike. We believe that the October 15, 1951 sworn statement of Lack's Stores, Inc., is consistent with its Comment of May 7, 1951. Accordingly, the Motion to Strike is DENIED and the Lack's Stores, Inc., statement is being considered in this proceeding.

and reservations are adopted:

City	VHF Channel No.	UHF Channel No.
San Antonio, Texas	4, 5, *9, 12	35, 41
Victoria, Texas		19

DALLAS, TEXAS

662. (a) **Proposed Assignments and Reservation.** In the Third Notice the Commission proposed the assignment of five channels to Dallas, Texas; VHF Channels 4, 8, and 13 and UHF Channels 23 and 29, with Channel 13 reserved for non-commercial educational use.

(b) **Census Data.** The Dallas standard metropolitan area has a population of 615,000 and the City of Dallas has a population of 434,000.

(c) **Existing Stations.** A. H. Belo Corporation is licensed for the operation of Station WFAA-TV on Channel 8 and KRLD Radio Corporation is licensed for the operation of Station KRLD-TV on Channel 4, both in Dallas.

(d) **Statement in Support of Proposed Assignments.** A. H. Belo Corporation, Dallas, Texas, supported the proposed assignments for Dallas. It was noted that the nearest co-channel assignment to Channel 8 in Dallas would be at Muskogee, Oklahoma, a distance of 220 miles, and the nearest adjacent channel assignment would be Channel 7 at Tyler, Texas, a distance of 92 miles.

(e) **Counterproposal of Trinity Broadcasting Corporation.** Trinity Broadcasting Corporation, Dallas, requested the assignment of an additional VHF channel to Dallas by deleting Channel 8 from Dallas and substituting therefor Channels 7 and 9, and making other changes as set forth below:

	Third Notice		Proposed Changes	
City	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.
Dallas, Texas	4, 8, *13	23, 29	4, †7, †9, *13	23, 29
Tyler, Texas	7	19	†8	19
Lufkin, Texas	9	46	†5	46
Fort Worth, Texas	5, 10	20, *26	5, †11	20, *26
Waco, Texas	11	*28, 34	†10	*28, 34
Lawton, Oklahoma	11	*28, 34	†10	*28, 34

(f) **Statement in Support of Counterproposal of Trinity Broadcasting Corporation.** Trinity Broadcasting Corporation pointed out that of the three VHF channels proposed for Dallas in the Third Notice, two are presently in use and the last, Channel 13, is proposed to be reserved for non-commercial educational use. Accordingly, it was noted that under the proposed assignments, no VHF channels would be available for new commercial applicants in Dallas. In view of the size of Dallas, its rapid growth, and its large and prosperous trading area, Trinity Broadcasting Corporation urged that the maximum number of "wide coverage television facilities" should be assigned. Trinity Broadcasting Corporation submitted that assigning only two VHF channels in Dallas for commercial purposes would create "monopolistic problems of two dominant television networks in a large and prosperous area where competition should obviously be encouraged rather than limited." It was argued that it would be possible to reassign VHF channels to five communities in Texas and one community in Oklahoma in such a way as not to reduce the number of VHF channels proposed by the Commission for any of these communities while at the same time achieving an additional VHF channel in Dallas. Since Station WFAA-TV is operating on Channel 8, which Trinity Broadcasting Corporation would delete, this station would have to move from Channel 8 to Channel 7. Trinity Broadcasting Corporation urged that this "minor move within the upper half of the VHF band is an extremely simple one technically and involves relatively little cost."

(g) The assignment of Channel 7 at Dallas would result in a 182 mile co-channel separation between Dallas and Austin, Texas, where Channel 7 is assigned. The assignment of Channel 9 at Dallas would result in a 173 mile co-channel separation between Dallas and Abilene, Texas, where Channel 9 is assigned. The assignment of Channel 8 at Tyler would result in a 179 mile co-channel separation between Tyler and Houston where Channel 8 is assigned. The assignment of Channel 5 at Lufkin would result in a 180 mile co-channel separation between Lufkin and Fort Worth, Texas, where Channel 5 is assigned. Dallas, Fort Worth, Abilene and Tyler are all situated in Zone II. Houston, Lufkin and Austin are situated in Zone III.

(h) **Conflicting Counterproposals and Oppositions to the Trinity Broadcasting Corporation Counterproposal.** The Trinity Broadcasting Corporation's counterproposal conflicts with the counterproposal of KTRH Broadcasting Company and Shamrock Broadcasting Company, Houston, Texas; South Texas Television Company, Houston, Texas; Red River Valley Broadcasting Corporation and Red River Valley Publishing Company, Sherman, Texas; East Texas Television Company, Longview, Texas; and Stephens County Broadcasting Company, Breckenridge, Texas.[127] In addition, oppositions to the Trinity Broadcasting Corporation counterproposal were filed by A. H. Belo Corporation, Dallas, Texas; Julius M. Gordon & Associates, Inc., Lufkin, Texas; KTRH Broadcasting Company and Shamrock Broadcasting Company, Houston, Texas; Lucille Ross Buford, licensee of Station KGKB, Tyler, Texas, and Oil Belt Television Company, Breckenridge, Texas.[128]

(i) **Educational Reservation.** The JCET filed a statement supporting the reservation of Channel 13 in Dallas for non-commercial educational use. It was urged that Dallas was a great metropolitan area with many schools and colleges and that it was important that Channel 13 be reserved. No oppositions to the proposed reservation have been filed.

[127] No sworn evidence in support of the Breckenridge counterproposal was accepted for filing, and, accordingly, this comment will not be considered in this Report.

[128] Although Oil Belt Television Company filed a comment in opposition to the counterproposal of Trinity Broadcasting Corporation on June 11, 1951, no sworn evidence was submitted in support of its oppositions; and, accordingly, the opposition will not be considered further in this Report.

Conclusions: Additional Commercial VHF Assignments

663. The Trinity Broadcasting Company counterproposal would assign an additional VHF channel to Dallas only by deviating from the required minimum mileage separations. Channel 7 at Dallas would be only 182 miles from the co-channel assignment at Austin; Channel 9 at Dallas would be only 173 miles from the co-channel assignment at Abilene; Channel 8 at Tyler would be only 179 miles from the co-channel assignment at Houston; and finally, Channel 5 at Lufkin would be only 180 miles from the co-channel assignment at Fort Worth. Since all of these measurements are between cities in Zone II, or between cities in Zone II and Zone III, they do not meet the required 190 mile minimum separation for co-channel assignments. Accordingly, the counterproposal of Trinity Broadcasting Corporation is denied.

	Third Notice		Proposed Changes	
City	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.
Amarillo	*2, 4, 5, 7, 10		*2, 4, † 7, 10	
Lubbock	11, 13	*20, 26	†5, 11, 13	*20, 26
Monahans	5		†9	

Conclusions: Educational Reservation

664. On the basis of the record, the reservation of VHF Channel 13 in Dallas for non-commercial educational use is finalized.

Conclusions: Additional Channel for Dallas

665. We are of the view that the assignment of an additional channel in Dallas is warranted on the basis of the record.[129] It was above noted that the counterproposal requesting additional VHF channels for Dallas could not be granted. UHF Channel 73 in Dallas would meet the required mileage spacings for channel assignments in this zone. Accordingly, Channel 73 will be added to Dallas.

Final Assignments and Reservation

666. The following assignments and reservation are adopted:

City	VHF Channel No.	UHF Channel No.
Dallas, Texas	4, 8, *13	23, 29, 73

AMARILLO, LUBBOCK AND MONAHANS, TEXAS

667. (a) **Proposed Assignments and Reservations.** In the Third Notice the Commission proposed the following assignments and reservations:

City	VHF Channel No.	UHF Channel No.
Amarillo	*2, 4, 5, 7, 10	
Lubbock	11, 13	*20, 26
Monahans	5	

(b) **Census Data.** The standard metropolitan area of Lubbock has a population of 101,000 with the City of Lubbock having a population of 72,000. The Amarillo standard metropolitan area has a population of 87,000 and the City of Amarillo, a population of 74,000. The population of Monahans is 6,000.

Lubbock

668. (a) **Counterproposal of Plains Radio Broadcasting Company.** Plains Radio Broadcasting Company, Lubbock, Texas, requested the additional assignment of Channel 5 to Lubbock by deleting this channel from Amarillo, Texas, and by making the following changes in the assignments proposed in the Third Notice:

	Third Notice		Proposed Changes	
City	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.
Amarillo	*2, 4, 5, 7, 10		*2, 4, † 7, 10	
Lubbock	11, 13	*20, 26	†5, 11, 13	*20, 26
Monahans	5		†9	

(b) **Statement in Support of Plains Radio Broadcasting Company Counterproposal.** Plains Radio Broadcasting Company pointed out that the assignment of Channel 5 to Lubbock, rather than to Amarillo, would provide three VHF channels to Lubbock, and four VHF channels to Amarillo. It was noted that the population of Amarillo and the population of Lubbock are practically equal. Accordingly, it was urged that the assignment of Channel 5 to Lubbock rather than to Amarillo would effect a more equitable distribution of television facilities. It was argued that there is no valid reason why Amarillo should be assigned five VHF channels, with Lubbock only two.

(c) It was pointed out that although in 1940 Amarillo had a substantially larger population than did Lubbock, during the past ten years Lubbock has grown 124% in population. It is also noted that the 1950 population figures for the metropolitan area of Lubbock are substantially greater than those for Amarillo. It was submitted that because of the comparable size of the two cities, and the comparable amount of business done in each city, a fair and equitable distribution of television facilities requires that a comparable number of VHF channels be assigned to each of the cities. The closest co-channel assignment to Channel 5 at Lubbock would be 268 miles, while the closest adjacent channel assignment would be 161 miles. Channel 9 at Monahans would be 205 miles from the closest co-channel assignment, and 150 miles from the closest adjacent channel assignment.

(d) **Conflicting Counterproposals and Oppositions to the Plains Radio Broadcasting Company Counterproposal.** No oppositions nor conflicting counterproposals to the Plains Radio Broadcasting Company counterproposal have been filed.

(e) **The Lubbock Educational Reservation.** The JCET supported the reservation of UHF Channel 28 in Lubbock for non-commercial educational use and submitted statements by Texas Technological College and the Lubbock Independent School District supporting the reservation. No oppositions to the proposed reservation were filed.

Amarillo

669. **The Amarillo Educational Reservation.** The JCET and Amarillo Public Schools supported the reservation of VHF Channel 2 for non-commercial educational use in Amarillo. The JCET submitted a statement by West Texas College, Canyon, Texas, supporting the reservation. No oppositions to the proposed reservation were filed.

Conclusions: Additional VHF Assignment in Lubbock

670. We are of the view, that the record supports the basis for the assignment of VHF Channel 5 in Lubbock. In light of the compar-

[129] See also our discussion above in connection with the addition of a UHF channel to Pittsburgh.

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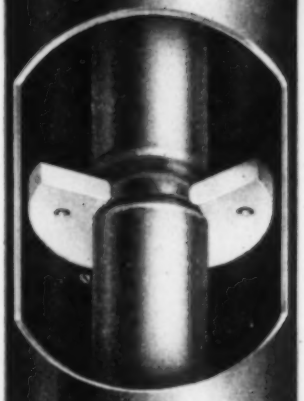

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able size and importance of Lubbock and Amarillo, we believe that the assignment of a third VHF channel to Lubbock would effect a more equitable distribution of television facilities than the assignment of a fifth channel to Amarillo. Accordingly, the counterproposal of Plains Radio Broadcasting Company is granted. As noted above, the Mexican-United States Television Agreement has been modified to reflect the substitution of VHF Channel 9 to Monahans for Channel 5.

Conclusions: Lubbock and Amarillo Educational Reservations

671. In view of the foregoing, the reservation of Channel 20 in Lubbock and Channel 2 in Amarillo for non-commercial educational use are finalized.[140]

Final Assignments and Reservations

672. The following assignments and reservations are adopted:

City	VHF Channel No.	UHF Channel No.
Lubbock, Texas	5, 11, 13	*20, 26
Amarillo, Texas	*2, 4, 7, 10	
Monahans, Texas	9	

McALLEN, BROWNSVILLE, HARLINGEN AND WESLACO, TEXAS

673. (a) **Proposed Assignments.** In the Third Notice the Commission proposed the following assignments:

City	VHF Channel No.	UHF Channel No.
McAllen		20
Brownsville	4, 5	
Harlingen		23

No assignments were proposed for Weslaco.

(b) **Census Data.** The City of Brownsville has a population of 36,000; the City of Harlingen a population of 23,000; the City of McAllen a population of 20,000; and Weslaco a population of 8,000.

McAllen

674. (a) **Counterproposal of McAllen Television Company.** McAllen Television Company, McAllen, Texas, requested the additional assignment of VHF Channel 5 to McAllen by moving Channel 5 from Brownsville to McAllen and assigning Channel 12 to Brownsville in place of Channel 5, as follows:

	Third Notice		Proposed Changes	
City	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.
McAllen, Texas		20	+5	20
Brownsville, Texas	4, 5		4, +12	

(b) **Statement in Support of McAllen Television Company Counterproposal.** McAllen Television Company argued that two channels would not be utilized in Brownsville; that there is a widespread interest in McAllen and Hidalgo County for VHF television service; and that the removal of Channel 5 from Brownsville and its assignment at McAllen would not deprive the Brownsville population of VHF service, since Channel 4 would remain in Brownsville. It was also suggested that Channel 12 could be utilized in Brownsville should additional television service be required in that community.

(c) As noted above, Channel 12 is assigned to Reynosa, Mexico, by the Mexican-United States Television Agreement. Reynosa is only 52 miles from Brownsville where Channel 12 is proposed as a substitute for Channel 5.

(d) **Conflicting Counterproposals and Oppositions to the McAllen Television Company Counterproposal.** A conflicting counterproposal to the McAllen Television Company counterproposal has been filed by Taylor Radio and Television Corporation, Weslaco, Texas. Oppositions to the McAllen Television Company counterproposal were filed by Brownsville Broadcasting Company, Brownsville, Texas; and Taylor Radio and Television Corporation, Weslaco.

Harlingen

675. (a) **Counterproposal of Harbenito Broadcasting Company, Inc.** Harbenito Broadcasting Company, Inc., Harlingen, Texas, requested the additional assignment of Channel 4 to Harlingen, Texas. This assignment would be accomplished by deleting the Channel 4 assignment from Brownsville, Texas, and substituting UHF Channel 36 in Brownsville, as follows:

	Third Notice		Proposed Changes	
City	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.
Harlingen, Texas		23	+4	23
Brownsville, Texas	4, 5		+, 5	+36

(b) **Statement in Support of Harbenito Broadcasting Company, Inc., Counterproposal.** Harbenito Broadcasting Company contended that its counterproposal would effect a fair, efficient and equitable distribution of television facilities. It was urged that the assignment of a VHF channel at Harlingen would make available a second station to that community, and would provide service to a substantially greater population than that which would receive service from a station located in Brownsville. It was submitted that the use of Channel 4 at Brownsville would result in a dissipation of the signal since a substantial amount of the service area would fall within the Gulf of Mexico, and since a greater portion of the service area would fall in Mexico than would be the case if Channel 4 were assigned to Harlingen. It was also noted that under the Harbenito counterproposal, the number of stations available to Brownsville would not be reduced since UHF Channel 36 would be provided as a substitute for that community and that the assignment of Channel 4 at Harlingen would still provide Grade A service to Brownsville. Harbenito Broadcasting Company noted that Harlingen is more centrally located in the Rio Grande Valley than Brownsville; that the maximum population density occurs several miles west of Brownsville; and that, accordingly, a significant increase in population could be served by the assignment of Channel 4 to a community farther west than Brownsville. Harbenito Broadcasting Company, Inc., also asserted that a combination of the Harlingen and San Benito populations, San Benito being less than 4 miles from Harlingen, is slightly in excess of that of Brownsville.

(c) The closest co-channel assignment to Channel 4 at Harlingen would be the assignment in the Mexican-United States Television Agreement for Saltillo, Coahuila, Mexico, at a distance of 214 miles, while the closest adjacent channel assignment would be Channel 3 at Laredo, Texas, at a distance of 143 miles. The nearest co-channel assignment to Channel 36 in Brownsville would be at Jacksonville, Texas, at a distance of 437 miles, and the nearest adjacent channel assignment would be Channel 35 at San Antonio, 248 miles distant.

(d) **Conflicting Counterproposals and Oppositions to the Harbenito Broadcasting Company, Inc., Counterproposal.** Oppositions to the Harbenito Broadcasting Company, Inc., counterproposal were filed by Brownsville Broadcasting Company, Brownsville, Texas, and the Houston Post Company, Houston, Texas. Taylor Radio and Television Corporation, Weslaco, Texas, filed a counterproposal conflicting in part with the Harbenito Broadcasting Company, Inc. counterproposal. In its opposition, the Brownsville Broadcasting Company supported the Commission's proposed assignments of VHF Channels 4 and 5 in Brownsville. It was urged that Harlingen had a population of only 23,000 as compared with 36,000 for Brownsville; that the assignment of one VHF and one UHF channel to Brownsville would create a serious economic situation for the UHF broadcaster, while the problem of intermixture would not arise under the Commission's proposal and that UHF Channel 54 or 60 could be assigned to Harlingen if added assignments were necessary in that community. In its opposition, the Houston Post objected to the use of Channel 4 in Harlingen since it would be assigned only 228 miles from the co-channel assignment at San Antonio. The Houston Post Company urged a minimum spacing of 240 miles for assignments in this area on Channels 2 through 6.

Weslaco-Harlingen

676. (a) **Counterproposal of Taylor Radio and Television Corporation.** Taylor Radio and Television Corporation of Weslaco, Texas, requested the additional assignments of Channels 4 and 5 to Weslaco-Harlingen by deleting Channels 4 and 5 from Brownsville, and by making the following changes in the assignments proposed in the Third Notice:[141]

	Third Notice		Proposed Changes	
City	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.
Brownsville, Texas	4, 5		+, +	
Weslaco-Harlingen, Texas			+4, +5	
Harlingen, Texas		23		23

(b) **Statement in Support of Taylor Radio and Television Corporation Counterproposal.** Taylor Radio and Television Corporation contended that a large portion of the service areas of Channels 4 and 5 at Brownsville would extend eastward into the Gulf of Mexico. It was urged that the assignment of these channels in the Weslaco-Harlingen area would provide Grade A television service to a substantially larger number of residents in the Lower Rio Grande Valley Area. Taylor Radio and Television Corporation pointed out that Brownsville is but one city of an isolated compact group of cities with the population of Brownsville being only 21% of the total population of the 15 cities situated in the Lower Rio Grande Valley. It was noted that Brownsville lies at the extreme eastern end of the Lower Rio Grande Valley, almost on the Gulf of Mexico, and that Harlingen, on the other hand, is located much nearer to the geographic center of the Valley. It was stated that Weslaco is 37.2 miles west of Brownsville and 19 miles west of Harlingen. Weslaco is 21.8 miles east of Mission, Texas, the westernmost heavily populated town in the Valley Area.

(c) Channel 4 at Weslaco-Harlingen would be 205 miles from the closest co-channel assignment at Saltillo, Coahuila, Mexico, and 197 miles from the closest adjacent channel assignment. Channel 5 at Weslaco-Harlingen would be 228 miles from the closest co-channel assignment at San Antonio, Texas, and 114 miles from the closest adjacent channel assignment.

(d) **Conflicting Counterproposals and Oppositions to the Taylor Radio and Television Corporation Counterproposal.** Oppositions to the Taylor Radio and Television Corporation counterproposal were filed by Brownsville Broadcasting Company, Brownsville, Texas; Houston Post Company, Houston, Texas; and McAllen Television Company, McAllen, Texas. McAllen Television Company filed a conflicting counterproposal and Harbenito Broadcasting Company, Inc., filed a counterproposal conflicting in part. In its opposition to the Taylor Radio and Television Corporation counterproposal, the Houston Post Company urged that tropospheric propagation in this area requires greater separations than those that would result under the Taylor counterproposal. In the opposition of the Brownsville Broadcasting Company to the counterproposal of Taylor Radio and Television Corporation, the same objections were raised as those in its opposition to the Harbenito Broadcasting Company, Inc., counterproposal discussed above. In the opposition of McAllen Television Company to the Taylor Radio and Television Corporation counterproposal, it was noted that Weslaco is a very small town. The removal of two channels from Brownsville, and their assignment in Weslaco, it was urged, would monopolize all of the VHF channels in the Lower Rio Grande Valley in this small inland town. It was submitted that it would be more appropriate and in the public interest to assign Channel 5 to McAllen, Texas, as proposed by McAllen Television Company.

Conclusions: VHF Assignments

677. As was noted above, the uti-

[140] No request was made in the record for a VHF educational reservation in Lubbock.

[141] Taylor Radio and Television Corporation also proposed to add Channel 2 to Weslaco by deleting that channel from Monterrey, Nuevo Leon, Mexico, and adding it as well to Saltillo, Coahuila, Mexico. In light of the conflict between the Mexican-United States Television Agreement and the Taylor Radio and Television Corporation's counterproposal seeking to shift Channel 2 from Monterrey to Saltillo in order to make available Channel 2 for Weslaco, Taylor Radio and Television Corporation abandoned its proposal to assign Channel 2 in Weslaco. Accordingly, it will not be discussed further in this Report.

lization of VHF Channels 4 and 5 in Brownsville would result in a large portion of the service areas of these stations falling over the Gulf of Mexico and within the Mexican border. The assignment of these channels in a city more centrally located in the Lower Rio Grande would provide a greater population and greater area with Grade A and B service. Moreover, these assignments would not necessarily deprive Brownsville of Grade A service. Accordingly, we are of the view that the VHF assignments for Brownsville should be assigned instead to Brownsville-Harlingen-Weslaco, rather than to Brownsville alone. Channels 4 and 5, therefore, will be assigned to Brownsville-Harlingen-Weslaco. These assignments may be utilized in any community lying within the triangle formed by Browsville, Harlingen and Weslaco. However, we do not believe that McAllen should be added to Brownsville-Harlingen-Weslaco thereby making Channels 4 and 5 available for assignment in that community. McAllen is located at a considerable distance to the west of Brownsville. A station in McAllen, for example, would not afford Grade A service to Brownsville. We are of the view that the request for the assignments of an additional channel to McAllen, Texas, must be denied. We do not believe that a VHF channel should be deleted from Brownsville-Harlingen-Weslaco in order to make an additional assignment available to McAllen. Furthermore, in light of the Mexico-United States television agreement, Channel 12 could not be assigned to Brownsville in order to replace Channel 5 in that community; Channel 12 in Brownsville would be only 52 miles from Reynosa, Tamaulipas, Mexico, where this channel is assigned by the Mexico-United States Television Agreement.

Conclusions: UHF Assignments

678. Channel 23 proposed for Harlingen cannot be utilized in all of Brownsville-Harlingen-Weslaco because of the required mileage spacings for UHF assignments. Accordingly, Channel 23 will remain assigned to Harlingen. Channel 36 proposed for Brownsville by Harbenito Broadcasting Company, Inc., similarly cannot be utilized in all of Brownsville-Harlingen-Weslaco. We believe, however, that the record supports the basis for assigning Channel 36 to Brownsville and it will be assigned to Brownsville.

Final Assignments

679. The following assignments are adopted:

City	VHF Channel No.	UHF Channel No.
Brownsville-Harlingen-Weslaco, Texas[142]	4, 5	
Brownsville, Texas		36
Harlingen, Texas		23
McAllen, Texas		20

HOUSTON, TEXAS

680. (a) **Proposed Assignments and Reservation.** In the Third Notice the Commission proposed assignment of five channels to Houston: VHF Channels 2, 8 and 13 and UHF Channels 23 and 29, with VHF Channel 8 reserved for non-commercial educational use.

(b) **Census Data.** The Houston standard metropolitan area has a population of 807,000 and the city has a population of 596,000.

(c) **Existing Stations.** The Houston Post Company is licensed for the operation of Station KPRC-TV on Channel 2.

(d) **Counterproposal of South Texas Television Company.** South Texas Television Company requested the additional assignment of Channels 5 and 10 to Houston, and that Channel 8, which is proposed to be reserved for non-commercial educational use, be made available instead for commercial purposes. These assignments would be achieved by the following changes in the assignments proposed in the Third Notice:

City	Third Notice VHF Channel No.	Third Notice UHF Channel No.	Proposed Changes VHF Channel No.	Proposed Changes UHF Channel No.
Houston, Texas	2, *8, 13	23, 29	2, †5, *8, †10, 13	23, 29
Galveston, Texas	11	35, 41, *47	†4	35, 41, *47
Beaumont-Port Arthur, Tex.	4, 6	31, *37	†6	31, *37
Port Arthur, Tex.			†12	

(e) **Statement in Support of South Texas Television Company Counterproposal.** South Texas Television Company urged that Channels 5 and 10 could be employed in Houston without causing or receiving undue interference, and that such assignments would result in substantial gains in service. It was stated that the closest co-channel assignment to Channel 5 at Houston would be at San Antonio, a distance of 189 miles. Channel 5 would also be 204 miles from Alexandria, Louisiana, where Channel 5 is assigned as a result of our decision herein. All of the above communities are situated in Zone III. Channel 10 at Houston would be 183 miles from Corpus Cristi, Texas, where this channel is assigned. Port Arthur, Texas, on Channel 12 as proposed would be 182 miles from the co-channel assignment at Shreveport, Louisiana. Corpus Christi and Port Arthur are situated in Zone III and Shreveport in Zone II.

(f) With respect to the request that Channel 8 be made available for commercial use, South Texas Television Company asserted that there is no "evidence of a demand for purely educational television facilities at Houston." South Texas Television Company also contended that the Commission did not have the authority to reserve channels for a particular "class" of applicants.[143]

(g) **Conflicting Counterproposals and Oppositions to the South Texas Television Company Counterproposal.** The South Texas Television Company counterproposal conflicts with counterproposals of Trinity Broadcasting Company, Dallas, Texas; and East Texas Television Company, Longview, Texas. In addition, oppositions to the South Texas Television Company counterproposal were filed by the following parties: Lufkin Amusement Company, Beaumont, Texas; Houston Post Company, Houston, Texas; Radio station KTBS, Inc.[144] Shreveport, Louisiana; and Trinity Broadcasting Company, Dallas, Texas.

(h) **Counterproposal of KTRH Broadcasting Company and Shamrock Broadcasting Company.** A joint counterproposal was filed by KTRH Broadcasting Company and Shamrock Broadcasting Company, both of Houston, Texas, also requesting the additional assignment of Channels 5 and 10 to Houston by making the following changes in the assignments proposed in the Third Notice:

City	Third Notice VHF Channel No.	Third Notice UHF Channel No.	Proposed Changes VHF Channel No.	Proposed Changes UHF Channel No.
Houston, Texas	2, *8, 13	23, 29	2, †5, *8, †10, 13	23, 29
Beaumont-Port Arthur, Texas	4, 6	31, *37	†, †	31, *37
Galveston, Texas	11	35, 41, *47	†4	35, 41, *47
Karnes City, Texas				†43
Port Arthur, Texas			†12	
Beaumont, Texas			†6	

(i) **Statement in Support of Counterproposal of KTRH Broadcasting Company and Shamrock Broadcasting Company.** KTRH Broadcasting Company and Shamrock Broadcasting Company alleged that all minimum requirements for channel spacings as proposed in the Third Notice would be met. It was further urged that Houston ranks 14th in the United States in population and that, among the first twenty cities in the United States, Houston shows the fastest rate of increase in population. It was submitted that with the exception of Pittsburgh and Cleveland where five channels are proposed in the Third Notice, all cities ranking above Houston have anywhere from six to ten assignments. It was contended that, while the possibility of increased tropospheric propagation may cause interference over that expected on the basis of propagation curves, a balance must be sought between the number of assignments which can be added to cities and such interference. It was contended that the assignment of one VHF channel to Beaumont and one to Port Arthur, as it proposed, was a more reasonable approach than assigning the channels to Beaumont-Port Arthur.

(j) Channel 5 at Houston would be 189 miles from the co-channel assignment at San Antonio, and 204 miles from the co-channel assignment at Alexandria, Louisiana. Houston, San Antonio, and Alexandria are all situated in Zone III. Channel 10 at Houston would be 183 miles from the co-channel assignment at Corpus Christi, which is also located in Zone III. Channel 12 in Port Arthur would be 182 miles from the co-channel assigned at Shreveport, Louisiana. Port Arthur lies in Zone III and Shreveport in Zone II.

(k) **Conflicting Counterproposals and Oppositions to the KTRH Broadcasting Company and Shamrock Broadcasting Company Counterproposals.** The above counterproposal conflicts with the counterproposals of Trinity Broadcasting Company and East Texas Television Company, Longview, Texas. In addition, oppositions to the joint counterproposal of KTRH Broadcasting Company and Shamrock Broadcasting Company were filed by Lufkin Amusement Company, Beaumont, Texas; Houston Post Company, Houston, Texas; Radio Station KTBS, Inc., Shreveport, Louisiana[146]; and Trinity Broadcasting Corporation, Dallas, Texas. Lufkin Amusement Company opposed the Houston counterproposals in so far as they requested the assignment of Channel 12 to Port Arthur instead of to Beaumont-Port Arthur. Lufkin also opposed the assignment of Channel 4 at Galveston in place of Channel 11 and of Channel 5 to Houston. It was submitted that the Commission's plan was to be preferred and that the service area of at least five proposed assignments would be degraded under the Houston plans. It was urged that both co-channel and adjacent channel station separations would be substantially decreased in an area recognized as being subject to abnormally high tropospheric propagation characteristics. It was stated that under the Commission's plan the nearest co-channel assignment to Channel 4 at Beaumont-Port Arthur would be at New Orleans, a distance of 242 miles from Beaumont and the nearest adjacent channel assignment at College Station, Texas, more than 130 miles from Beaumont. It was alleged that under the Houston counterproposals, Channel 12 at Port Arthur would be 180 miles from Shreveport where the same channel is assigned, and 79 miles from Houston where adjacent Channel 13 is proposed under the Third Notice. It was urged that the Houston counterproposals would aggravate this condition since the Port Arthur transmitter site would be closer to the gulf in order to maintain the required separation between Port Arthur and Shreveport. It was noted that the center of Port Arthur is only 15 miles from the gulf, while the center of Beaumont is 29 miles from the coast. It was pointed out that the assignment of Channel 4 instead of Channel 11 at Galveston would mean a co-channel spacing of only 223 miles from San Antonio as opposed to 267 miles between Beaumont and San Antonio under the Commission's plan. Lufkin submitted that while tropospheric propagation along the Gulf Coast would have little effect under the Third Notice assignments in this area, tropospheric propagation

[142] These assignments may be used in any community lying within the triangle formed by Brownsville-Harlingen-Weslaco.

[143] The contention that the Commission does not have authority to provide for educational reservations in the Table of Assignments has been disposed of in the Memorandum Opinion of July 13, 1951.

[144] Although Radio Station KTBS, Inc. of Shreveport filed a comment in opposition to the South Texas counterproposal, no evidence in support of its opposition was filed. Accordingly, the KTBS opposition will not be considered in this Report.

[145] This counterproposal originally also urged that UHF Channel 27 be assigned to Fredericksburg, Texas. This request, however, was withdrawn.

[146] No sworn evidence in support of its opposition was filed by KTBS and, accordingly, the opposition will not be considered in this Report.

would be a factor under the Houston counter-proposals and service would be seriously degraded. It was contended that the proposed assignments for Houston and the surrounding area in the Third Notice are adequate to provide service to that community, and that there would appear to be no justification for additional assignments. In its opposition to the Houston counter-proposals the Houston Post Company supported the Commission's proposal to employ wider spacing between stations in Gulf Coast area. It was contended that the station separations proposed by the Houston counterproposals were insufficient for this area.

(l) **The Educational Reservation.** The University of Houston submitted a statement supporting the reservation of VHF Channel 8 in Houston, Texas. The University stated that there was extensive support for the reservation from numerous organizations including educational institutions, the Chamber of Commerce, legislators, and the City Council. The University stated that it was "prepared to submit immediately an application for permit to construct an educational television station." It represented that the educational interests in Houston are prepared to operate this station initially not less than six hours a day with ultimate plans for twelve hour day operation. It was noted that the University is presently operating an FM station and is proposing to expend an additional $250,000 for television equipment. The University stated that one source of funds is a special royalty annual income of approximately $250,000, which will be available if needed for the establishment of the television station. The University stated that it is prepared to finance construction on its own, or in cooperation with the Houston Independent School District, and that all educational interests in the area have been assured that in uniting they will have the privilege of using the facility of the educational television station. It was stated that a committee representing various interests will be set up to allocate time on an equitable basis. The JCET also supported the reservation of VHF Channel 8 in Houston. As a part of its presentation, JCET submitted a statement of the Houston Independent School District requesting the reservation. The Superintendent indicated that a committee had formulated various program suggestions. Detailed statistics were submitted to show that the Houston School District has the financial resources necessary for television. It was noted that the 1950 actual budget was almost $19 million and that enrollment in the schools totaled 95,757. In addition, it was pointed out that the School District has an extensive adult education program for the entire community and that during 1950-1951 over 15,000 adults were enrolled in the various activities and course offerings of the adult education department.

Conclusions: Additional VHF Commercial Channels

681. We are of the view that the record does not support the basis for assigning VHF Channels 5 and 10 to Houston. These assignments can be achieved only at the expense of deviating from the required 220 mile minimum assignment spacing for Zone III and 190 mile minimum spacing for Zone II in several instances. These counterproposals would also require the deletion of a VHF channel from Beaumont, Texas, since under the Commission's plan channels are assigned to Beaumont-Port Arthur while the Houston counterproposals would assign VHF channels separately to Beaumont and Port Arthur. As we have noted above, we believe that in this Gulf Coast area, separations greater than the minimum for other parts of the country must be maintained in order to prevent interference caused by tropospheric propagation that could result in a severe degradation of television service in that area. To illustrate the defects in the Houston counterproposals, in order to assign Channel 5 to Houston, this channel would be employed 189 miles from San Antonio, and 204 miles from Alexandria, Louisiana. In order to achieve the assignment of Channel 10 in Houston, a co-channel spacing of 183 miles between Houston and Corpus Christi, Texas, must be employed. It should be pointed out that Corpus Christi and Houston both lie along the Gulf Coast. The above separations are well below the 220 mile minimum for Zone III. Channel 12 at Port Arthur would be only 182 miles from Shreveport, below the 190 mile minimum for Zone II in which Shreveport lies. Accordingly, the counterproposals of South Texas Television Company and KTRH Broadcasting Company and Shamrock Broadcasting Company, in so far as they request the assignment of additional VHF channels, are denied.

Conclusions: Educational Reservation

682. It is our view that the record warrants the reservation of VHF Channel 8 in Houston for non-commercial educational use. The evidence indicates an early utilization of this frequency for use in Houston. We see no merit, therefore, in the South Texas Television Company's contention that no evidence of a demand for "purely educational facilities" exists. We are of the view that no basis exists for deviating in this instance from the principle of making available for educational purposes a VHF channel in those communities with three or more VHF assignments where all such VHF assignments are not in operation. Accordingly, the reservation of Channel 8 in Houston for non-commercial educational use is finalized.

Conclusions: Additional Channel for Houston

683. We are of the view that the assignment of an additional channel in Houston is warranted on the basis of the record.[147] It was above noted that the counterproposals requesting additional VHF channels for Houston could not be granted. UHF Channel 39 in Houston would meet the required mileage spacings for channel assignments in this zone. Accordingly, Channel 39 will be added to Houston.

Final Assignments and Reservation

684. The following assignments and reservation are adopted:

City	VHF Channel No.	UHF Channel No.
Houston, Texas	2, *8, 13	23, 29, 39

[147] See also our discussion above in connection with the addition of a UHF channel to Pittsburgh.

BEAUMONT-PORT ARTHUR, TEXAS

685. (a) **Proposed Assignments and Reservation.** In the Third Notice the Commission proposed the assignment of four channels to Beaumont-Port Arthur, Texas: VHF Channels 4 and 6 and UHF Channels 31 and 37, with Channel 37 reserved for non-commercial educational use.

(b) **Census Data.** The standard metropolitan area of Beaumont-Port Arthur has a population of 195,000; the City of Beaumont has a population of 94,000; and the City of Port Arthur has a population of 58,000.

(c) **Statement in Support of Proposed Assignments.** Beaumont Broadcasting Corporation, Beaumont, Texas, filed a statement supporting the proposed assignments for Beaumont-Port Arthur.[148]

(d) **Educational Reservation.** The JCET filed a statement supporting the reservation of Channel 37 for non-commercial educational use in Beaumont-Port Arthur and submitted a statement by Lamar State College of Technology in support of the reservation. No oppositions to the proposed reservation were filed.

Conclusions: Educational Reservation

686. In view of the foregoing, the reservation of Channel 37 for non-commercial educational use in Beaumont-Port Arthur is finalized.

Final Assignments and Reservation

687. The following assignments and reservation are adopted:

City	VHF Channel No.	UHF Channel No.
Beaumont-Port Arthur, Tex.	4, 6	31, *37

WACO, TEXAS

688. (a) **Proposed Assignments and Reservation.** In the Third Notice the Commission proposed the assignment of three channels to Waco, Texas: VHF Channel 11 and UHF Channels 28 and 34, with Channel 28 reserved for non-commercial educational use.

(b) **Census Data.** The Waco standard metropolitan area has a population of 130,000 and the City of Waco has a population of 85,000.

(c) **Statement in Support of Proposed Assignments.** KWTX Broadcasting Company, Waco, Texas, filed a statement supporting the Commission's proposed assignments for Waco. It was pointed out that Channel 11 in Waco would be 209 miles from the closest co-channel assignment, and 83 miles from the closest adjacent channel assignment.[149]

(d) **Educational Reservation.** Baylor University, the Waco Independent School District, and the JCET supported the reservation of Channel 28 in Waco for non-commercial educational use. No oppositions to the proposed reservation have been filed.

[148] The counterproposals of South Texas Television Company, and KTRH Broadcasting Company and Shamrock Broadcasting Company, requested that Channels 12 and 6 be assigned to Beaumont and Port Arthur separately, rather than to Beaumont-Port Arthur. The Commission has denied these counterproposals elsewhere in this Report.

[149] Trinity Broadcasting Corporation, Dallas, Texas, filed a counterproposal which, among other things, would change the VHF assignment in Waco to Channel 10. However, the Trinity counterproposal has been denied elsewhere in this Report.

Conclusions: Educational Reservation

689. In view of the foregoing, the reservation of Channel 28 in Waco for non-commercial educational use is finalized.

Final Assignments and Reservation

690. The following assignments and reservation are adopted:

City	VHF Channel No.	UHF Channel No.
Waco, Texas	11	*28, 34

WICHITA FALLS, TEXAS

691. (a) **Proposed Assignments and Reservation.** In the Third Notice the Commission proposed the assignment of four channels to Wichita Falls, Texas; VHF Channels 3 and 6 and UHF Channels 16 and 22, with Channel 16 reserved for non-commercial educational use.

(b) **Census Data.** Wichita Falls has a standard metropolitan area population of 98,000, and the City has a population of 68,000.

(c) **Statement in Support of Proposed Assignments.** Rowley-Brown Broadcasting Company, Wichita Falls, Texas, supported the proposed assignments for Wichita Falls. It was pointed out that the assignment of Channel 3 at Wichita Falls would be 255 miles from the closest co-channel assignment, and 91 miles from the closest adjacent channel assignment, and that Channel 6 at Wichita Falls would be 20[illegible] miles from the closest co-channel assignment, and 104 miles from the closest adjacent channel assignment. It was urged that there is a need for these assignments in Wichita Falls.

(d) **Educational Reservation.** The JCET supported the reservation of Channel 16 in Wichita Falls for non-commercial educational use and submitted a statement of the Dean of Administration of Midwestern University, Wichita Falls, that the University is anxious to utilize television as soon as developments in UHF make it feasible to do so. No oppositions to the proposed reservation were filed.

Conclusions: Educational Reservation

692. In view of the foregoing, the reservation of Channel 16 in Wichita Falls for non-commercial educational use is finalized.

Final Assignments and Reservation

693. The following assignments and reservation are adopted:

City	VHF Channel No.	UHF Channel No.
Wichita Falls, Texas	3, 6	*16, 22

COLLEGE STATION, TEXAS: EDUCATIONAL RESERVATION

694. (a) **Proposed Reservation.** In the Third Notice the Commission proposed the reservation of VHF Channel 3 in College Station, Texas, for non-commercial educational use.

(b) The JCET filed a statement supporting the reservation of Channel 3 in College Station for non-commercial educational use. No oppositions to the proposal reservation were filed.

Conclusions

695. In view of the foregoing, the reservation of Channel 3 for non-commercial educational use in College Station, Texas, is finalized.

LAREDO, TEXAS: EDUCATIONAL RESERVATION

696. (a) **Proposed Reservation.** In the Third Notice the Commission proposed the reservation of Channel 15 in Laredo, Texas, for non-commercial educational use.

(b) **Statement in Support of Reservation.** The JCET filed a statement supporting the reservation of Channel 15 in Laredo, Texas, for non-commercial educational purposes and submitted a statement of the Superintendent of Catholic Schools at Beeville, supporting the reservation. No opposition to the proposed reservation has been filed.

Conclusions

697. In view of the foregoing, the reservation of Channel 15 for non-commercial educational use in Laredo is finalized.

SAN ANGELO, TEXAS: EDUCATIONAL RESERVATION

698. (a) **Proposed Reservation.** In the Third Notice the Commission proposed the reservation of Channel 23 in San Angelo, Texas, for non-commercial educational use.

(b) The City Manager of San Angelo supported the reservation of Channel 23 in San Angelo for non-commercial educational use stating that the City Commission had pledged cooperation in sharing the costs of construction of a television station. The JCET submitted a statement in support of the reservation, including statements of the San Angelo Public Schools and San Angelo College. No oppositions to the proposed reservation have been filed.

Conclusions

699. In view of the foregoing, the reservation of Channel 23 for non-commercial educational use in San Angelo is finalized.

TEXARKANA, TEXAS: EDUCATIONAL RESERVATION

700. (a) **Proposed Reservation.** In the Third Notice the Commission proposed the reservation of Channel 18 in Texarkana, Texas, for non-commercial educational use.

(b) The JCET supported the reservation of Channel 18 in Texarkana for non-commercial educational use and submitted a statement of the Superintendent of Texarkana Public Schools expressing an interest in and need for the reservation. No oppositions to the proposed reservation have been filed.

Conclusions

701. In view of the foregoing, the reservation of Channel 18 for non-commercial educational use in Texarkana is finalized.

EL PASO, TEXAS: EDUCATIONAL RESERVATION

702. (a) **Proposed Reservation.** In the Third Notice, the Commission proposed the reservation of Channel 7 in El Paso, Texas, for non-commercial educational use.

(b) Texas Western College of El Paso supported the reservation of Channel 7 in El Paso for non-commercial educational use. No oppositions to the proposed reservation have been filed.

Conclusions

703. In view of the foregoing, the reservation of Channel 7 for non-commercial educational use at El Paso is finalized.

FORT WORTH, TEXAS: EDUCATIONAL RESERVATION

704. (a) **Proposed Reservation.** In the Third Notice, the Commission proposed the reservation of Channel 26 in Fort Worth, Texas, for non-commercial educational use.

(b) The JCET filed a statement supporting the reservation of Channel 26 in Fort Worth for non-commercial educational use and submitted a statement of the Director of the Fort Worth Association supporting the reservation. No oppositions to the proposed reservation have been filed.

Conclusions

705. In view of the foregoing, the reservation of Channel 26 for non-commercial educational use in Fort Worth is finalized.

GALVESTON, TEXAS: EDUCATIONAL RESERVATION

706. (a) **Proposed Reservation.** In the Third Notice the Commission proposed the reservation of Channel 47 for non-commercial educational use in Galveston, Texas.

(b) The JCET filed a statement supporting the reservation of Channel 47 in Galveston for non-commercial educational use and submitted a statement of the Acting Superintendent of Galveston Independent Schools indicating an interest in the reservation. No oppositions to the proposed reservation have been filed.

Conclusions

707. In view of the foregoing, the reservation of Channel 47 for non-commercial educational use in Galveston, Texas, is finalized.

CORPUS CHRISTI, TEXAS, EDUCATIONAL RESERVATION

708. (a) **Proposed Reservation.** In the Third Notice the Commission proposed the reservation of Channel 16 in Corpus Christi, Texas, for non-commercial educational use.

(b) The Superintendent of the Corpus Christi Independent School District suported the reservation of Channel 16 in Corpus Christi for non-commercial educational use. The JCET also filed a statement supporting the reservation including testimony of the Dean and Acting President of the University of Corpus Christi expressing the interest of the University in the reservation. The JCET also submitted a statement of the Superintendent of Catholic Schools at Beeville, Texas, supporting the reservation and promising cooperation with other educational institutions in the area. No oppositions to the proposed reservation have been filed.

Conclusions

709. In view of the foregoing, the reservation of Channel 16 for non-commercial educational use in Corpus Christi is finalized.

AUSTIN, TEXAS: EDUCATIONAL RESERVATION

710. (a) **Proposed Reservation.** In the Third Notice the Commission proposed to reserve Channel 30 in Austin, Texas, for non-commercial educational use.

(b) The University of Texas supported the reservation of Channel 30 in Austin for non-commercial educational use, stating that the Board of Regents had instructed the Chancellor and officials of the University to continue the development of plans for the establishment of a non-commercial educational television station. No oppositions to the proposed reservation were filed.

Conclusions

711. In view of the foregoing, the reservation of Channel 30 for non-commercial educational use in Austin is finalized.

MORGANTOWN, WEST VIRGINIA: EDUCATIONAL RESERVATION

712. (a) **Proposed Reservation.** In the Third Notice the Commission proposed the reservation of Channel 24 for Morgantown.

(b) West Virginia University supported the reservation of Channel 24 in Morgantown for non-commercial educational use. No objection was filed to the proposed reservation.

Conclusions

713. In view of the foregoing the reservation of Channel 24 in Morgantown for non-commercial educational use is finalized.

CHARLOTTE, HIGH POINT, WINSTON-SALEM, NORTH CAROLINA; PRINCETON, BECKLEY, WEST VIRGINIA

714. (a) **Proposed Assignments and Reservations.** In the Third Notice the Commission proposed the following assignments and reservations:

City	VHF Channel No.	UHF Channel No.
Greensboro, N. C.	2	*51, 57
Charlotte, N. C.	3, 9	36, *42
High Point, N. C.		15
Winston-Salem, N. C.	12	26, *32
Princeton, West Va.		
Beckley, W. Va.		21

(b) **Census Data.** The standard metropolitan area of Charlotte has a population of 197,000 and the City of Charlotte has a population of 134,000. The Greensboro-High Point standard metropolitan area has a population of 191,000 and the City of High Point has a population of 40,000. The City of Greensboro has a population of 74,000. The standard metropolitan area of Winston-Salem has a population of 146,000 and the City of Winston-Salem has a population of 88,000. The City of Princeton has a population of 8,000. The City of Beckley has a population of 19,000.

(c) **Existing Stations.** Jefferson Standard Broadcasting Company is licensed for the operation of Station WBTV, Charlotte, on Channel 3. Greensboro News Company is licensed for the operation of Station WFMY-TV, Greensboro, on Channel 2.

Charlotte

715. (a) **Joint Counterproposal of The Broadcasting Company of the South and Inter-City Advertising Company, Charlotte, North Carolina.** In a joint counterproposal The Broadcasting Company of the South and Inter-City Advertising Company requested the additional assignment of Channel 6 to Charlotte, by making the following changes in the assignments proposed in the Third Notice:

City	Third Notice VHF Channel No.	Third Notice UHF Channel No.	Proposed Changes VHF Channel No.	Proposed Changes UHF Channel No.
Augusta, Georgia	6, 12		†7, 12	
Charlotte, N. C.	3, 9	36, *42	3, †6, 9	36, *42
Wilmington, N. C.	6	29, *35	†12	29, *35
Charleston, S. C.	2, 5, *13		2, †4, *13	
Columbia, S. C.	7, 10	*19, 25	†5. 10	*19, 25

(b) **Statement in Support of Broadcasting Company of the South and Inter-City Advertising Company Counterproposal.** It was urged that the adoption of the counterproposal would not result in the reduction of the number of assignments proposed by the Commission and that the size and economic importance of Charlotte warranted the assignment of a third VHF channel to that community.

(c) The closest co-channel assignment separations resulting from the requested changes in assignments would be at a distance of 183 miles on Channel 5 between Raleigh, North Carolina, and Columbia, South Carolina; a distance of 183 miles on Channel 12 between Winston-Salem, North Carolina, and Wilmington, North Carolina; and a distance of 180 miles on Channel 6 between Knoxville, Tennessee, and Charlotte, North Carolina.

(d) **Oppositions and Conflicting Counterproposals to Broadcasting Company of the South and Inter-City Advertising Company.** Oppositions and conflicting counterproposals were filed by High Point Enterprises, Inc., High Point, North Carolina; Piedmont Publishing Company and Winston-Salem Broadcasting Company, Winston-Salem, North Carolina; Daily Telegraph Printing Company, Bluefield, West Virginia; Radio Augusta, Inc., Augusta, Georgia; Southeastern Broadcasting Company and Middle Georgia Broadcasting Company, Macon, Georgia, and Joe L. Smith, Jr., Inc., Beckley, West Virginia.

(e) **The Charlotte Educational Reservation.** Davidson College, Davidson, North Carolina, and JCET supported the reservation of Channel 42 at Charlotte. The JCET submitted a resolution of the Charlotte Board of School Commissioners suporting the reservation. No objection was filed to this proposed reservation.

High Point

716. (a) **Counterproposal of High Point Enterprises, Inc., High Point, North Carolina.** High Point Enterprises, Inc., requested the additional assignment of VHF Channel 6 to High Point, North Carolina, without making any other changes in the assignments proposed in the Third Notice.

(b) **Statement in Support of High Point Enterprises, Inc., Counterproposal.** It was recognized by High Point Enterprises, Inc., that the operation of Channel 6 at High Point would result in the co-channel operation of that channel at Richmond, Virginia, and Wilmington, North Carolina, at distances of 178 and 166 miles, respectively, from High Point. It was urged, however, that there would be no difficulty in meeting the 170 mile required separation between transmitters; and, moreover, that a separation of 134.5 miles was all that was required to protect Grade A service and that the separations proposed by High Point Enterprises, Inc., on Channel 6 would exceed that distance.

(c) **Oppositions and Conflicting Counterproposals to High Point Enterprises, Inc., Counterproposal.** Conflicting counterproposals were filed by Broadcasting Company of the South and Inter-City Advertising Company, Charlotte, N. C.;

Piedmont Publishing Company and Winston-Salem Broadcasting Company, Winston-Salem, N. C.; Daily Telegraph Printing Company, Bluefield, West Virginia, and Joe L. Smith, Jr. Inc., Beckley, West Virginia. Havens & Martin opposed the High Point counterproposal.

Winston-Salem

717. (a) **Counterproposal of Piedmont Publishing Company and Winston-Salem Broadcasting Company.** In identical counterproposals Piedmont Publishing Company and Winston-Salem Broadcasting Company requested the additional assignment of VHF Channel 6 to Winston-Salem, without making any other changes in the assignments proposed by the Commission in the Third Notice.

(b) **Statement in Support of the Piedmont Publishing Company and Winston-Salem Broadcasting Company Counterproposal.** It was urged that the assignment of Channel 6 to Winston-Salem would comply with the Commission's requirement for minimum co-channel and adjacent channel separation; that the nearest co-channel assignment would be at Richmond, at a distance of 185 miles. It was further urged that the size and economic importance and population of the area justified the assignment of a third VHF channel to that community; and that the resources of the community were adequate to support a third VHF channel.

(c) The counterproposal would in addition result in a co-channel assignment separation of 183 miles on Channel 6 between Winston-Salem and Wilmington, North Carolina.

(d) **Oppositions and Conflicting Counterproposals to Piedmont and Winston-Salem Counterproposals.** Conflicting counterproprosals were filed by Broadcasting Company of the South and Inter-City Advertising Company, High Point Enterprises, Inc., Daily Telegraph Printing Company, Joe L. Smith, Jr. Inc., Beckley, West Virginia. Havens and Martin, Inc., Richmond, Virginia, opposed the foregoing counterproposals.

(e) **The Winston-Salem Educational Reservation.** The Winston-Salem Teachers College supported the reservation of Channel 32 at Winston-Salem for non-commercial educational use. No opposition to the reservation was filed.

Princeton

718. (a) **Counterproposal of Daily Telegraph Printing Company, Bluefield, West Virginia.** In a counterproposal to the Commission's Third Notice the Daily Telegraph Printing Company requested the assignment of VHF Channel 6 to Princeton, West Virginia, without any other changes in the assignments proposed in the Third Notice.

(b) **Statement in Support of Daily Telegraph Counterproposal.** Daily Telegraph urged that a grant of the counterproposal would not adversely affect any assignment proposed by the Commission in the Third Notice. It was urged that the counterproposal complies with the priorities outlined in the Commission's Third Notice; that there are no co-channel or adjacent channel assignments within 180 or 170 miles, respectively, from Princeton, West Virginia; and that a grant of the counterproposal would constitute the only Grade A VHF television service to a substantial number of people. In further support of the counterproposal it was urged that UHF is not satisfactory for the area in view of the rugged and mountainous terrain surrounding Princeton.

(c) The counterproposal would result in a 185 mile co-channel assignment separation between Princeton and Knoxville, Tennessee on Channel 6 in Zone II.

(d) **Opposition and Conflicting Counterproposals to Daily Telegraph Counterproposal.** Oppositions and conflicting counterproposals were filed by Broadcasting Company of the South and Inter-City Advertising Company, High Point Enterprises, Inc., Piedmont Publishing Co., Winston-Salem Broadcasting Company, and Joe L. Smith, Jr., Inc., Beckley, West Virginia.

Beckley

719. (a) **Counterproposal of Joe L. Smith, Jr. Inc.,** Joe L. Smith, Jr. Inc., requested the additional assignment of Channel 6 to Beckley without making any other changes in the channels proposed in the Third Notice.

(b) **Statement in Support of Joe L. Smith, Jr. Inc., Counterproposal.** Joe L. Smith, Jr. Inc., stated that the assignment of Channel 6 at Beckley would be in accordance with the assignments proposed by the Commission in the Third Notice. The assignment of Channel 6 at Beckley complies with the minimum spacings adopted herein.

(c) **Oppositions and Conflicting Counterproposals to Joe L. Smith, Jr. Inc., Counterproposal.** Oppositions and conflicting counterproposals were filed by Winston-Salem Broadcasting Company and Piedmont Publishing Company, both of Winston-Salem, North Carolina; Daily Telegraph Printing Company, Bluefield, West Virginia; Broadcasting Company of the South and Inter-City Advertising Company, both of Charlotte, North Carolina; and High Point Enterprises, Inc., High Point, North Carolina. Winston-Salem Broadcasting Company suggested that Channel 9 could be utilized in Beckley in lieu of Channel 6; and WSAZ, Inc., suggested that Channel 4 could be utilized in Beckley in lieu of Channel 6.

(d) The assignment of Channel 9 in Beckley would not comply with the minimum separations adopted in this Report. The assignment of Channel 9 in Beckley would create co-channel assignment separations of 160 miles from Beckley to Wheeling, West Virginia, and 177 miles from Beckley to Charlotte, North Carolina.

(e) The assignment of Channel 4 in Beckley would likewise not comply with the minimum co-channel assignment separations adopted in this Report. The assignment of Channel 4 in Beckley would create a co-channel assignment separation between Beckley and Chapel Hill, North Carolina, on Channel 4 of 176 miles under Plan 1, and between Chapel Hill and Bristol, Tennessee, on Channel 5 of 178 miles under Plan 2, both separations being in Zone II.

Conclusion: The Educational Reservations in Charlotte and Winston-Salem

720. On the basis of the record the reservation of Channel 42 in Charlotte and Channel 32 in Winston-Salem for non-commercial educational use are finalized.

Conclusions: Requests for VHF Assignments

721. The counterproposals seeking the additional assignment of a VHF channel to Charlotte, High Point, Winston-Salem and Princeton would result in the following co-channel assignment separations below 190 miles in Zone II:

Counterproposal	Channel	Cities	Mileage
Broadcasting Co. of the South and Inter-City Adv. Co.	(5 (12	Raleigh, N.C.-Columbia, S.C.	183
		Winston-Salem, N.C.-Wilmington, N.C.	183
	(6	Knoxville, Tenn.-Charlotte, N.C.	180
High Point Enterprises, Inc.	6	Wilmington, N.C.-High Point N.C.	166
Winston-Salem Broadcasting Co. and Piedmont Publishing Co.	6	Winston-Salem, N.C.-Wilmington, N.C.	183
Daily Telegraph Printing Co.	6	Princeton, W. Va.-Knoxville, Tenn.	185

722. Since these separations in Zone II are below the minimum for this area, the counterproposals must be denied. Accordingly, the counterproposals of Broadcasting Company of the South and Inter-City Advertising Company, High Point Enterprises, Inc., Piedmont Publishing Company, Winston-Salem Broadcasting Company and Daily Telegraph Printing Company are denied.

723. With respect to the addition of a VHF assignment to Beckley, the suggested assignment of Channel 4 and 9 to this city would result in the following co-channel assignment separations below 170 miles in Zone I and 190 miles in Zone II:

Party	Channel	Cities	Zone	Mileage
Winston-Salem Broadcasting Co.	9	Beckley-Wheeling	I	160
		Beckley-Charlotte	II	177
WSAZ, Inc. Plan 1	4	Beckley-Chapel Hill	II	176
WSAZ, Inc. Plan 2	5	Chapel Hill-Bristol	II	178

724. Since these separations in Zones I and II are below the minimum for these areas the counterproposals must be denied. Accordingly, the counterproposals of WSAZ, Inc., and Winston-Salem Broadcasting Company are denied in so far as they request the assignment of VHF Channel 4 or VHF Channel 9.

725. The assignment of Channel 6 to Beckley would comply with the minimum separations adopted and in our view should be made. Accordingly, the counterproposal of Joe L. Smith, Jr., Inc. is granted.

Final Assignments

726. The following assignments and reservations are adopted:

City	VHF Channel No.	UHF Channel No.
Greensboro, N. C.	2	*51, 57
Charlotte, N. C.	3, 9	36, *42
High Point, N. C.		15
Winston-Salem, N. C.	12	26, *32
Beckley, W. Va.	6	21

NORFOLK-PORTSMOUTH, AND NEWPORT NEWS, VIRGINIA

727. (a) **Proposed Assignments and Reservations:** In the Third Notice the Commission proposed the following assignments and reservations:

City	VHF Channel No.	UHF Channel No.
Newport News		33
Norfolk-Portsmouth	10, 12	15, *21, 27

(b) **Census Data.** The standard metropolitan area of Norfolk-Portsmouth has a population of 446,000. The City of Norfolk has a population of 214,000. The city of Portsmouth has a population of 80,000. The City of Newport News has a population of 42,000.

(c) **Existing Station:** The WTAR Radio Corporation is licensed to operate station WTAR-TV on Channel 4 at Norfolk. The licensee has been ordered to show cause why the license of WTAR-TV should not be modified to specify Channel 10 in lieu of Channel 4.

Norfolk-Portsmouth

728. (a) **First Alternative Counterproposal and Answer to Order to Show Cause of WTAR Radio Corporation.** In a counterproposal to the Commission's Third Notice and in its Answer to the Commission's Order to Show Cause, WTAR objected to the proposal to modify the license of WTAR-TV to specify Channel 10 in lieu of Channel 4. In its counter-proposal to the assignments proposed in the Third Notice, WTAR Radio Corporation requested the assignment of Channel 3 to Norfolk-Portsmouth for the operation of WTAR-TV by the following changes in the assignments proposed in the Third Notice:

City	Third Notice		Counterproposal I	
	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.
Norfolk-Portsmouth, Va.	10, 12	15, *21, 27	3†, 10	15, *21, 27
Richmond, Va.	3, 6	*23, 29	6, 12†	*23, 29

(b) **Statement in Support of WTAR Counterproposal I.** In support of its first alternative counterproposal and in opposition to the Commission's Order to Show Cause, WTAR Radio Corporation argued that WTAR-TV has been in operation since April 2, 1950, on Channel 4; that the shift to Channel 10 would involve costs to the licensee in the amount of $56,000; that additional revenue would be lost as a result of the three to four week period of conversion; and that the public would be deprived of its only available television service during this period. It was further urged that the assignment of Channel 3 to Norfolk and Channel 12 to Richmond were technically feasible and would comply with the Commission's standards for minimum separation of co-channel and adjacent

UHF

or

VHF

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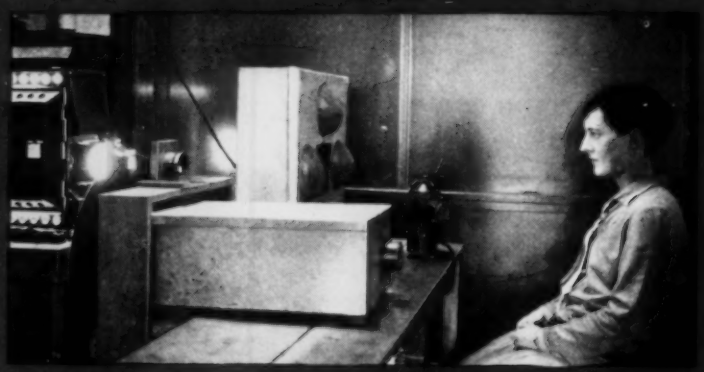
GENERAL ELECTRIC TV 'FIRSTS' PIONEER TRANSMITTER AND

125 YEARS AGO

First Home TV Receiver, in 1927, at Schenectady. Dr. Alexanderson unveils his console model with a tiny 3" screen. The receiver used a rotating perforated disc to scan the image. Sound was received on a different wave length through speaker at right.



First Television "Camera." As light rays shown on it at left is projected through 48 holes of revolving disc. As flashes are picked up by 4 electric eyes protruding from wooden frame on table. The impulses are then broadcast much the same as any radio message.

First Theatre Television. In May, 1936, Dr. Alexanderson produced a picture 7 feet square on a screen in Proctor's Theatre, Schenectady. Receiver used a light cell developed by Dr. August Kaselow.

First Television "Broadcaster," as demonstrated by its inventor. Each of the 24 mirrors mounted on a wheel at the rear here set at a different angle to televise an image before 7 photocells.

Mass Television Pickup. Pioneer G-E equipment at Albany, 15 miles from Schenectady, picked up the image and voice of Governor Alfred E. Smith accepting Democratic presidential nomination.

Complete 1952 Line of Broadcast Equipment Shows Startling Advance in Electronic Science

ON December 16, 1926, when Dr. E. F. W. Alexanderson, famed General Electric scientist, first demonstrated a system for transmitting pictures by radio, The New York Times hailed the event as a major achievement in electronic science.

This prolific inventor, who was issued a patent on an average of every 7 weeks during his 45-year active tenure with the company, established the tradition of bold, challenging television research that sparks the efforts of G-E engineers today. The first home receiver, the first remote pickup, the first theatre projection of TV—all were developed in Alexanderson's laboratory. He and his associates have kept up the pace for 25 years.

You can put your confidence in—

SPAN QUARTER CENTURY FROM RECEIVER TO LATEST UHF EQUIPMENT

TODAY...

Today, with the greatest new industry in America on the threshold of unprecedented expansion—with UHF channels soon to be claimed by scores of applicants—G.E.'s latest television developments deserve your attention. Complete studio units for VHF and UHF operation, television transmitters ranging in power from 100 watts to 50 kw, and antenna systems with effective power gains up to 25 times—are available to existing stations and prospective broadcasters.

In an expensive business, it pays to examine carefully your investment in basic station equipment. Here at Electronics Park we believe we have the most modern television factory in the world. We'd like you to see it before you make any equipment decisions. Your General Electric Broadcast Man will be glad to make the arrangements.

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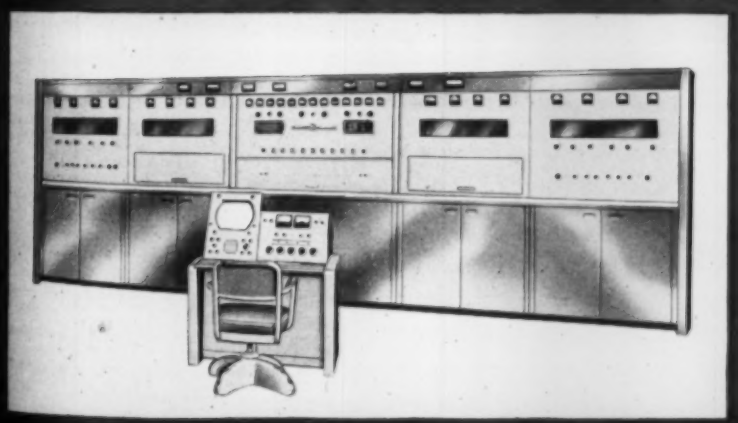
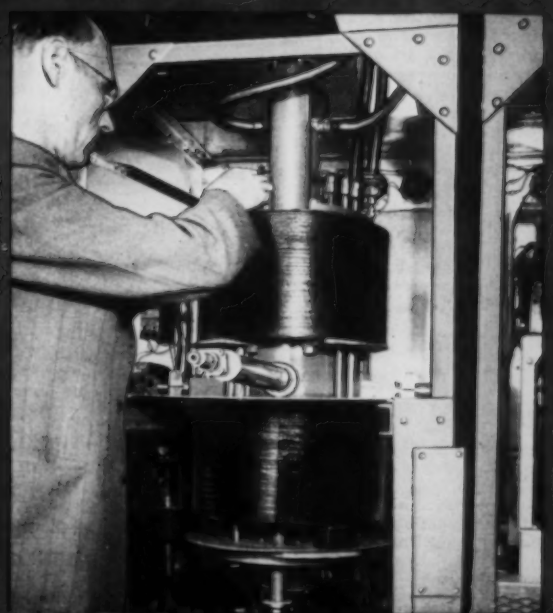
20 To 1 Power Gain! A fundamental new development of G-E engineering, this helical antenna for UHF is a 4-bay radiator of side fire design. Only 4 feed points are required. Simplified de-icing system. Also available: 5-bay, 25-gain antenna.

GENERAL ELECTRIC



Most Powerful UHF Television Transmitter. This 12 kw unit offers a unique control system. One crystal oscillator controls both the visual and the aural carriers, also together with a fixed separation of 4.5 mc. A number of broadcasters have already orders for this UHF transmitter.



High-Power UHF Klystron Tube. A successful solution to the difficult problem of high power at UHF. Designed and built to G-E specifications, this tube's remarkable amplification and extreme stability actually make high-power UHF television a reality.

channel stations. In support of the counterproposal it was urged that the operation of Channel 3 in Norfolk would result in a total gain of service; that the interference free area of a station operating on Channel 3 would be greater than the operation of a station on Channel 12 in Norfolk. It was also urged that as a result of the exchange of Channels 3 and 12 between Norfolk and Richmond, the area which would receive interference-free service and the area which would receive Grade A service would be increased.

(c) **Oppositions and Conflicting Counterproposals to the WTAR Counterproposal I.** An opposition to the counterproposal of WTAR Broadcasting Company was filed by Larus and Brother Company, Inc., Richmond, Virginia, urging that the operation of Channel 3 in Richmond would provide Grade B service to a greater area than the operation of Channel 12 in Richmond. A conflicting counterproposal was filed by Hampton Roads Broadcasting Corporation, Newport News.

(d) **Second Alternative Counterproposal of WTAR Broadcasting Company.** In its second alternative counterproposal to the assignments proposed by the Commission in the Third Notice, WTAR Broadcasting Company requested the additional assignment of VHF Channel 2 to Norfolk and modification of the WTAR-TV license to specify operation on that channel without changes in any other assignments proposed by the Commission in the Third Notice.

(e) **Statement in Support of WTAR Counterproposal II.** In support of this counterproposal it was urged by WTAR Broadcasting Corporation that in the event that the Commission assigned Channel 2 to Norfolk, WTAR would have no objection to shifting the frequency of WTAR-TV from Channel 4 to Channel 2. It was further urged that the assignment of Channel 2 to Norfolk would provide a third VHF channel to the area; that the population of the standard metropolitan area of Norfolk-Portsmouth was 13½% of the population of the State of Virginia and that the assignment of a third VHF channel, or a sixth channel, to Norfolk-Portsmouth was in accordance with the mandates of Section 307(b) of the Communications Act. It was recognized by the WTAR Radio Corporation that the minimum co-channel separation which would result under this alternative counterproposal would be 169 miles from Norfolk to Baltimore on Channel 2 and that this separation was below the minimum proposed by the Commission.

(f) **Oppositions and Conflicting Counterproposal to WTAR Counterproposal II.** The A. S. Abell Company licensee of WMAR-TV, Baltimore, Maryland, opposed the second alternative counterproposal of the WTAR Radio Corporation asserting that interference would result to the service area of WMAR-TV as a result of the reduced separation on Channel 2 between Baltimore and Norfolk. A conflicting counterproposal was filed by Hampton Roads Broadcasting Company, Newport News.

Newport News

729. (a) **The Counterproposal of Hampton Roads Broadcasting Corporation.** Hampton Roads Broadcasting Corporation requested the additional assignment of VHF Channel 12 to Newport News by deleting that channel from Norfolk-Portsmouth and replacing it with VHF Channel 2 as follows:

	Third Notice		Counterproposal	
City	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.
Newport News, Va.		33	12†	33
Norfolk-Portsmouth, Va.	10, 12	15, *21, 27	2†, 10	15, *21,27

(b) **Statement in Support of Hampton Roads Broadcasting Corp. Counterproposal.** Hampton Roads urged that the economic and industrial importance of Newport News warrants the assignment of a first VHF channel; that the cities of Norfolk - Portsmouth - Newport News had previously been classified as a metropolitan district in the Hampton Roads area; that in the television assignments proposed by the Commission in April of 1947 and in July of 1949 the Norfolk-Portsmouth-Newport News were treated as one unit and were made a common assignment. It was urged that Hampton Roads is a 50-square mile harbor and serves the ports of Norfolk, Portsmouth and Newport News; that the Hampton Roads area has traditionally been considered as a composite area; that Newport News is situated across the Bay at a distance of 11.7 miles north of Norfolk; that Newport News has many large and diversified industrial activities. It was urged by Hampton Roads Broadcasting Corporation that Newport News, with a population of 41,551 and a thriving industrial capacity warrants the assignment of at least one VHF channel, particularly when no other community under the Hampton Roads proposal would be deprived of television service by making the changes requested in the counterproposal. It was recognized by Hampton Roads Broadcasting Corporation that a co-channel separation of 169 miles would result from the operation of Channel 2 at Norfolk and Baltimore.

(c) **Oppositions and Conflicting Counterproposals to Hampton Roads Counterproposal.** A. S. Abell, Baltimore, and the Beach View Broadcasting Corporation of Norfolk both opposed the counterproposal of Hampton Roads because of the 169 miles separation that would be created by a grant thereof. WTAR Radio Corp. filed a conflicting counterproposal.

(d) **The Norfolk-Portsmouth Educational Reservation.** The JCET and the School Board of Norfolk supported the reservation of Channel 21 in Norfolk-Portsmouth for non-commercial educational use. No objection was made to the proposed reservation.

Conclusions: The Norfolk-Portsmouth Educational Reservation

730. On the basis of the record, the reservation of Channel 21 in Norfolk-Portsmouth for non-commercial educational use is finalized.

Conclusions: Additional VHF Assignments in Norfolk-Portsmouth and Newport News

731. The counterproposals seeking the additional assignment of a VHF channel to Norfolk-Portsmouth (WTAR second alternative counterproposal) and to Newport News would result in the following co-channel assignment separation below 170 miles in Zone I:

Channel	Cities	Miles
2	Norfolk-Baltimore (WMAR-TV)	169

Since the minimum assignment separation of co-channel stations in Zone I is 170 miles these counterproposals must be denied. Accordingly, the second alternative counterprosal of WTAR Broadcasting Company and the counterproposal of Hampton Roads Broadcasting Company are denied.

Under the 1940 census Norfolk-Portsmouth-Newport News were contained in one metropolitan district. Under the revised 1950 census definitions Newport News was not included within the same area, since Newport News is located in Warwick County, whereas, Norfolk and Portsmouth are located in Norfolk County. We do not believe, however, that the census definitions should be controlling here for assignment purposes. Newport News is located 11.7 miles from Norfolk and the record establishes that the Norfolk-Portsmouth-Newport News area has traditionally been regarded as a unit and that there is a high degree of common interests within these three cities. Accordingly, although the counterproposal of Hampton Roads cannot be granted because of the violation of our standards for minimum co-channel spacing resulting under its proposal, we believe that the proposal of Hampton Roads should be granted in part by making available to Norfolk-Portsmouth-Newport News the channels assigned to each of these cities. It is our view that the first alternative counterproposal of WTAR is meritorious and it is therefore granted as modified above.

Conclusions: Answer to Show Cause Order and First Alternative Counterproposal of WTAR Broadcasting Company

732. The first alternative counterprosal of WTAR Radio Corporation for the assignment of Channel 3 to Norfolk is in compliance with the Commission's standards and is consistent with the counterproposals of Shenandoah Valley Broadcasting Corporation, Harrisonburg, Virginia, and WSAZ, Inc., Huntington, West Virginia, both of which have been granted elsewhere in this Report.

733. It is our view that the first alternative counterproposal of WTAR Radio Corporation is meritorious, and it is therefore granted. An appropriate authorization will be issued to WTAR Radio Corporation to specify operation of WTAR-TV on Channel 3.

Final Assignments and Reservations

734. The following assignments and reservation are adopted:

City	Channel No.
Norfolk-Portsmouth-Newport News	3, 10, 15, *21, 33
Norfolk-Portsmouth [150]	27

[150] Channel 27 cannot be used under the table of minimum separations in Newport News. Accordingly, Channel 27 is assigned to Norfolk-Portsmouth only.

RICHMOND, CHARLOTTESVILLE AND PETERSBURG, VIRGINIA

735. (a) **Prosoped Assignments and Reservations.** In the Third Notice the Commission proposed the following assignments and reservations:

City	VHF Channel No.	UHF Channel No.
Charlottesville		45
Petersburg	8	41
Richmond	3, [151] 6	*23, 29

(b) **Census Data.** The Standard metropolitan area of Richmond has a population of 328,000 and the City of Richmond has a population of 230,000. The City of Charlottesville has a population of 26,000. The City of Petersburg has a population of 35,000.

(c) **Existing Station.** Havens and Martin, Inc., is licensed for the operation of WTVR, Richmond, on Channel 6.

Richmond

736. (a) **Counterproposals of Larus and Brother Company, Inc. and Richmond Newspapers, Inc.** Larus and Brother Company, Inc. and Richmond Newspapers, Inc. requested the additional assignment of VHF Channel 8 to Richmond by deleting that channel from Petersburg, Virginia and substituting therefor UHF Channel 59.

(b) **Statement in Support of Larus and Brother and Richmond Newspapers Counterproposal.** Larus and Brother Co., Inc. and Richmond Newspapers, Inc. urged that the economic importance and population of Richmond as compared with Petersburg justifies the deletion of Channel 8 from Petersburg and the assignment of that channel to Richmond. It was urged that the population of the City of Richmond had increased by more than 19%, and the population of the standard metropolitan area by more than 24% since 1940. It was also contended that its counterproposal would comply with the Commission's standards for minimum separation of co-channel and adjacent channel assignments. It was pointed out that the closest co-channel assignment on Channel 8 from Richmond would be at Lancaster, Pennsylvania, a distance of 184 miles. In further support of the counterproposal it was urged that the operation of Channel 8 at Richmond would render service to a substantial area and population; that the operation of Channel 8 at Richmond would result in a net gain of coverage; and that the area losing Grade B service would be served by from two to nine other services. It was also urged that the operation of VHF Channel 8 at Richmond would provide Grade A service to Petersburg. In further support of the counterproposal of Richmond Newspapers, Inc. it was urged that a minimum of three or four VHF assignments is required in Richmond to afford the required number of major outlets and to avoid monopoly.

(c) **Oppositions and Conflicting Counterproposals to the Larus and Brother and Richmond Newspapers Counterproposals.** An opposition to the counterproposals was filed by

[151] In accordance with our decision to grant the counterproposal of WTAR Radio Corp., Norfolk, we have adopted the assignment of Channel 12 in Richmond in lieu of Channel 3 as proposed in the Third Notice.

Louis H. Peterson, Petersburg, Virginia.[152] In the opposition it was urged that Channel 8 be retained in Petersburg. It was asserted that the City of Petersburg was not part of the Richmond standard metropolitan area and that the distance between the cities was 23 miles. It was urged that the deletion of Channel 8 from Petersburg and the assignment of that channel to Richmond would result in a substantial loss of the only VHF Grade B service to persons residing along the Virginia-North Carolina boundary. It was asserted that the operation of Channel 8 at Petersburg would render service to a large area and population. The City of Charlottesville, the Chamber of Commerce of Charlottesville, Virginia, and Barham and Barham, Radio Station WCHV filed a conflicting counterproposal to that of the Richmond parties.

(d) **The Richmond educational reservation.** The City of Richmond supported the reservation of Channel 23 in Richmond for non-commercial educational use. No objection was filed to the reservation.

Charlottesville

737. (a) **Joint Counterproposal of City of Charlottesville, the Chamber of Commerce of Charlottesville, Virginia, and Barham and Barham, Radio Station WCHV.** In a joint counterproposal the Charlottesville parties requested the deletion of VHF Channel 8 from Petersburg and the assignment of that channel to Charlottesville and the substitution of UHF Channel 59 in Petersburg for the deleted channel.

(b) **Statement in Support of Charlottesville Counterproposal.** The Charlottesville parties urged that if Channel 8 were assigned to Charlottesville it was proposed to locate the transmitter at Bucks Elbow, at a distance of 13¾ miles from the city and at an elevation of 2,450 feet above average terrain and 3,180 feet above mean sea level. It was urged that the operation of Channel 8 at Charlottesville as proposed at the mountain site would render service to very large area and population. It was further stated that the operation of VHF Channel 8 from a downtown site in Charlottesville would also render the first VHF service to a large area in the northern portion of the State of Virginia. It was also contended that a grant of the counterproposal would be consistent with the Commission's standards for minimum separation of co-channel and adjacent channel assignments. In addition it was urged that the closest station which could render Grade A service to the area of Charlottesville was assigned to Waynesboro on Channel 42 at a distance of 23 miles and that the Blue Ridge Mountains separate the two cities with elevations of about 3,000 feet. It was concluded that it was unlikely that satisfactory service would be provided to the city of Charlottesville from the operation of a UHF channel.

(c) **Oppositions and Conflicting Counterproposals to the Charlottesville Counterproposal.** Oppositions to the foregoing joint counterproposal were filed by Larus and Brother Company, Inc., and Richmond Newspapers, Inc., both of Richmond, urging that it was inappropriate to consider the use of Channel 8 in Charlottesville operating with a transmitter site assumed at a mountain. It was urged that the use of Channel 8 at the downtown site of Charlottesville would not provide service to as many persons as would be served by the operation of that station from either Richmond or Petersburg. It was also urged in the opposition that the use of Bucks Elbow mountain site would be equally advantageous in the UHF and that Channel 64 could be assigned to Charlottesville. An opposition to the counterproposal was also filed by Louis H. Peterson. WSAZ, Inc. has filed an opposition to this counterproposal since it would involve the assignment of Channel 8 in Charlottesville, a distance of 173 miles from Charleston, West Virginia, where WSAZ-TV proposed the assignment of Channel 8.

(d) **The Charlottesville Educational Reservation.** The University of Virginia supported the reservation of Channel 45 in Charlottesville for non-commercial educational use. No objections were made to the reservation.[153]

Conclusions: Educational Reservations in Richmond and Charlottesville

738. On the basis of the record the reservation of Channel 23 and 45 at Richmond and Charlottesville, respectively, for non-commercial educational use are finalized.

Conclusions: Additional VHF Assignments in Richmond and Charlottesville

739. We are of the view that no basis has been established on the record for the deletion of Channel 8 assigned to Petersburg in order to assign that channel to Richmond or Charlottesville.

740. We are of the view that the deletion of the sole VHF channel from Petersburg, a city of 35,000, in order to assign a third VHF channel to Richmond or a total of five channels to that city is in view of the circumstances presented unwarranted. Similarly, we believe that the assignment of a VHF channel to Charlottesville at the expense of deleting the only VHF channel proposed for Petersburg, a larger community, is unwarranted. It is recognized that Charlottesville would not, under the Third Notice, have any commercial assignments. However, one of the parties has proposed the use of Channel 64 in Charlottesville for that purpose and we find that this channel should be assigned to Charlottesville.

741. In view of the foregoing, the counterproposals of Larus and Brother Company, Inc., and Richmond Newspapers, Inc., and the counterproposal of the City of Charlottesville, the Chamber of Commerce of Charlottesville, Virginia, and Barham and Barham, Radio Station WCHV, are denied.

Final Assignments and Reservations

742. The following assignments and reservations are adopted:

City	VHF Channel No.	UHF Channel No.
Charlottesville		*45, 64
Petersburg	8	41
Richmond	6, 12	*23, 29

BLACKSBURG, DANVILLE, LYNCHBURG, AND ROANOKE, VIRGINIA

743. (a) **Proposed Assignments and Reservations.** In the Third Notice the Commission proposed the following assignments and reservations:

City	VHF Channel No.	UHF Channel No.
Blacksburg		*60
Danville		24
Lynchburg	13	16
Roanoke	7, 10	27, *33

(b) **Blacksburg Educational Reservation.** The JCET supported the reservation of Channel 60 in Blacksburg for non-commercial educational use. No objection was made to the proposed reservation.

(c) **Roanoke Educational Reservation.** The JCET and the Virginia Polytechnic Institute supported the reservation of Channel 33 in Roanoke for non-commercial educational use. No objection was made to the proposed reservation.

(d) **Danville.** The population of the city of Danville is 35,000. Piedmont Broadcasting Corporation filed a sworn statement in support of the Commission's proposed assignment for Danville, Virginia, stating that the location, size and economic position of Danville require and can readily sustain a television broadcast station. No opposition to the Commission's proposed assignment for Danville has been filed in this proceeding.

(e) **Lynchburg.** The city of Lynchburg has a population of 48,000. Lynchburg Broadcasting Corporation, Lynchburg, Virginia, filed a sworn statement supporting the Commission's proposed assignments for Lynchburg, Virginia. In the sworn statement it was asserted that the City of Lynchburg is within 14 miles of the geographical center of the State of Virginia, and is the dominant city in the area in which it is located; that Lynchburg is the geographical, economic and cultural center of central Virginia and that the assignments proposed by the Commission are necessary to serve the needs of the area. Old Dominion Broadcasting Corporation also filed a sworn statement supporting the assignments proposed for Lynchburg. No opposition to the assignments proposed for Lynchburg has been filed in this proceeding.

Conclusions

744. On the basis of the record the following assignments and reservations are adopted:

City	VHF Channel No.	UHF Channel No.
Blacksburg		*60
Danville		24
Lynchburg	13	16
Roanoke	7, 10	27, *33

NASHVILLE AND COOKEVILLE, TENNESSEE

745. (a) **Proposed Assignments and Reservations.** In the Third Notice the Commission proposed the following assignments and reservations:

City	VHF Channel No.	UHF Channel No.
Cookeville		24
Nashville	*2, 4, 8	30, 36

(b) **Census Data.** The standard metropolitan area of Nashville has a population of 322,000 and the City of Nashville has a population of 174,000. The City of Cookeville has a population of 7,000.

(c) **Existing Station:** WSM, Inc., is licensed for the operation of Station WSM-TV at Nashville on Channel 4.

Nashville

746. (a) **Joint Counterproposal of WLAC Broadcasting Station and WSIX Broadcasting Service, and Counterproposal of Capital Broadcasting Company.** In a joint counterproposal WLAC Broadcasting Service and WSIX Broadcasting Station and in an identical counterproposal, Capital Broadcasting Company, all requested an additional assignment of VHF Channel 5 in Nashville and the deletion of the educational reservation from Channel 2 without any other changes in the assignments proposed in the Third Notice.

(b) **Statement in Support of WLAC, WSIX, and Capital Counterproposals.** In support of the request for the additional assignment of VHF Channel 5 at Nashville it was urged that it would not require any other changes in the assignments proposed by the Commission in the Third Notice; that the assignment of Channel 5 to Nashville meets the Commission's standards for minimum separation of co-channel and adjacent channel stations. It was asserted that the operation of Channel 5 at Nashville would render service to a substantial area and populations; that there were approximately 43,393 VHF television sets in the Nashville area. It was also asserted that UHF channels would be inadequate to serve the needs of the Nashville area since UHF stations would serve a substantially smaller service area than would VHF stations.

(c) **Conflicting Counterproposals to the WSIX, WLAC and Capital Counterproposals.** A conflicting counterproposal was filed by WHUB, Inc., Cookeville, Tennesee.

(d) **The Nashville Educational Reservation.** The JCET supported the reservation of VHF Channel 2 for use by a non-commercial educational station and submitted a sworn statement of Vanderbilt

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[152] Larus and Brother Company, Inc. filed a Motion to Strike certain portions of the sworn statement of Louis H. Peterson, filed on August 27, 1951. In particular the Motion to Strike is directed against Exhibit A and B on the grounds of hearsay. A Motion to Strike was directed against evidence in Paragraph 7 of the sworn statement on the ground that they are conclusions purportedly based on Exhibit A which is objected to as inadmissible in evidence. The Motions to Strike are DENIED for they go only to the weight to be given to the evidence and not to its admissibility.

A Motion to Strike is directed against an "Engineering Statement supporting Louis H. Peterson's Support of FCC Proposal to Assign Channel 8 to Petersburg, Virginia", sworn to by Peterson's consulting engineer and filed with the Commission on October 22, 1951. The last paragraph on Page 1 of this statement includes this sentence. "Statements supporting the opposition of Louis H. Peterson to these proposals have been filed with the FCC and they are incorporated herein by reference." The Motion to Strike states that the affiant attempts to incorporate by reference the statement of Louis H. Peterson of June 6, 1951, on file with the Commission; that this statement was submitted on behalf of Louis H. Peterson by his counsel prior to the adoption by the Commission of the Order of Hearing Procedure of July 25, 1951, that the statement was not sworn to by Louis H. Peterson, nor has he filed a "sworn statement verifying the matters of fact set out therein" as required by paragraph 5(b) of the Order of Hearing Procedure. This Motion to Strike is GRANTED. The affiant engineer may not incorporate this material by reference under the Order of Hearing Procedure. Such material in the affiant engineer's statement, other than that incorporated by reference, is properly before the Commission for consideration.

[153] A comment recommending that this channel be assigned for commercial use was filed by Radio Station WCHV and by the Charlottesville Chamber of Commerce. However, these parties failed to submit a sworn statement in this proceeding.

University in Nashville. The University indicated that it was "fully conscious of the advantage that such a station would be to its operation, and is proposing to make full investigation and to seek the necessary funds for this purpose." Vanderbilt University stated that it recognized the importance of this opportunity and that it was the purpose of the University administration to make a thorough study of the situation. The University reported that it hoped that on its own account, it might find the way to avail itself of the use of a television channel. The Davidson County Board of Education also supported the reservation.

(e) **Opposition to Nashville Educational Reservation.** WLAC Broadcasting Service and WSIX Broadcasting Station, Nashville, Tennessee, and Capital Broadcasting Co.[154] opposed the proposed reservation of VHF Channel 2. Their sworn statement included an affidavit of the Mayor of Nashville stating that the commercial radio stations had been cooperative with the city educational institutions in the broadcasting of public service programs, and that the city was not financially able within the predictable future to support an educational television station. Affidavits were also presented from Scarritt College for Christian Workers, Fisk University, George Peabody College for Teachers, and David Lipscomb College indicating that these institutions had no objection to making Channel 2 available for commercial use in light of the great doubt that they would be able to operate a station in the near future.

Cookeville

747. (a) **Counterproposal of WHUB, Inc.** In a counterproposal to the Commission's Third Notice, WHUB, Inc., requested the additional assignment of VHF Channel 5 to Cookeville without any other changes in the assignments proposed in the Third Notice.

(b) **Statement in Support of WHUB, Inc. Counterproposal.** WHUB urged that Cookeville is located about 72 miles east of Nashville, 90 miles west of Knoxville and 80 miles north of Chattanooga; that the population of Putnam County in which Cookeville is located is 29,825; that the trade area of Cookeville encompasses an area of approximately 50 miles around Cookeville with a population of approximately 300,000. It was further urged that the industrial, agricultural and economic growth of the Cookeville region and the importance to the nation of the continued development of the area warrant the best service possible in every field of communications including television. It was urged that Cookeville's strategic location, its position as a geographic, cultural and economic center make it the logical site of a VHF station that will give service to the area and thereby assist in the continuing growth and advancement of the area.[155] In further support of the WHUB counterproposal it was asserted that the assignment of Channel 5 to Cookeville would comply with the Commission's standards for minimum separation of co-channel and adjacent channel assignments and would provide a service to a substantial area and population.

(c) The counterproposal would result in the following co-channel assignment separations below 190 miles in Zone II:

Cities	Channel	Mileage
Cookeville, Tenn.-Atlanta, Ga.	5	180
Cookeville, Tenn.-Bristol, Tenn.	5	185

(d) **Oppositions and Conflicting Counterproposals to WHUB, Inc., Counterproposal.** Oppositions and conflicting counterproposals were filed by Capital Broadcasting Co., WSIX Broadcasting Station and WLAC Broadcasting Service, all of Nashville, and the Fort Industry Company, Atlanta, Georgia.

Conclusions: Nashville Educational Reservation

748. We find on the basis of the evidence that the proposed reservation of VHF Chanel 2 in Nashville for use by a non-commercial educational station should be finalized.[156] The record establishes that Vanderbilt University is seriously considering the establishment of a non-commercial educational station in Nashville. It is our view that the educational community in Nashville must be afforded time in which to establish such a station. Accordingly, on the basis of the record, the proposed reservation of Channel 2 for use by a non-commercial educational station is finalized; and the counterproposal of WLAC Broadcasting Station, WSIX Broadcasting Service and Capital Broadcasting Company are denied insofar as they request the deletion of the reservation of Channel 2 at Nashville.

Conclusions: Additional VHF Assignments in Nashville and Cookeville

749. The counterproposal of the Nashville parties seeking the additional assignment of VHF Channel 5 to Nashville and the counterproposal of WHUB seeking the additional assignment of the same channel to Cookeville are mutually exclusive since Cookeville and Nashville are approximately 72 miles apart. We believe on the basis of the record that the assignment of Channel 5 should be made to Nashville rather than to Cookeville. The Cookeville counterproposal would result in two co-channel assignment separations below the minimum adopted herein for Zone II; whereas, the assignment of Channel 5 to Nashville is in accordance with our standards. Moreover, it is our view that the assignment to Nashville, a city of 174,000 with a metropolitan area of 322,000 is to be preferred to Cookeville with a population of 7,000. In view of the foregoing, the joint counterproposal of WLAC Broadcasting Service, WSIX Broadcasting Station and the counterproposal of Capital Broadcasting Company are granted and the counterproposal of WHUB, Inc., is denied.

Final Assignments and Reservation

750. The following assignments and reservation are adopted:

City	VHF Channel No.	UHF Channel No.
Cookeville		24
Nashville	*2, 4, 5, 8	30, 36

CHATTANOOGA AND KNOXVILLE, TENNESSEE: EDUCATIONAL RESERVATIONS

751. (a) **Proposed Reservations.** In the Third Notice the Commission proposed the following reservations for non-commercial educational use:

City	VHF Channel No.	UHF Channel No.
Chattanooga, Tenn.		*55
Knoxville, Tenn.		*20

(b) **Chattanooga.** The Board of Education of the Chattanooga Public Schools supported the reservation of Channel 55 for non-commercial educational use. No objections were made to the proposed reservation.

(c) **Knoxville.** The University of Tennessee supported the reservation of Channel 20 for non-commercial educational use. No objections were made to the reservation.

Conclusions

752. On the basis of the record, the reservations of Channels 55 and 20 at Chattanooga and Knoxville, respectively, are finalized.

KINGSPORT, TENNESSEE

753. (a) **Proposed Assignments.** In the Third Notice the Commission proposed the assignment of one channel to Kingsport, Tennessee, UHF Channel 28.

(b) **Census Data.** The City of Kingsport has a population of 20,000.

(c) **Counterproposal of Kingsport Broadcasting Company.** The Kingsport Broadcasting Company requested the additional assignment of VHF Channel 2 to Kingsport without any other changes in the assignments proposed in the Third Notice.

(d) **Statement in Support of Kingsport Counterproposal.** Kingsport Broadcasting Company urged that the size, economic importance and population of Kingsport warranted the assignment of a VHF channel to that community. It was recognized that the assignment of Channel 2 to Kingsport would result in a co-channel separation of 159 miles to Greensboro, North Carolina, where that channel is also assigned but it was argued that consideration should be given by the Commission to the unusual terrain conditions which exist in the area. It was stated that a mountain range between Kingsport and Greensboro rises to an elevation of 5,000 feet or higher and that the normal separation required between transmitters should not apply in this instance. It was also urged that more television services could be made available if the required separations were reduced to 150 miles for VHF channels. Finally, it was asserted that if Channel 2 were assigned to Kingsport that the interference level could be held to that value contemplated by the Commission 170 mile rule for proposed transmitter to transmitter spacings by the proper site selection or reduction in power below 20 dbk or 100 kw.

Conclusions

754. It is our view that the counterproposal of the Kingsport Broadcasting Company, Inc., must be denied. The counterproposal would result in a co-channel assignment separation of 159 miles on Channel 2 between Kingsport and Greensboro, North Carolina in Zone II. The minimum co-channel assignment separation for this Zone is 190 miles. Elsewhere in this Report we have set forth the reasons for the denial of requests for a special class of low power stations and for assignments at reduced separations due to high intervening terrain. Accordingly, the counterproposal of Kingsport Broadcasting Company, Inc., is denied, and the assignments proposed by the Commission in the Third Notice for Kingsport are adopted.

BRISTOL, TENNESSEE AND BRISTOL, VIRGINIA

755. (a) **Proposed Assignments.** In the Third Notice, the Commission proposed to assign two channels to Bristol, Tennessee, VHF Channel 5 and UHF Channel 46; and did not propose the assignment of any channels to Bristol, Virginia.

(b) **Census Data.** The population of the City of Bristol, Tennessee, is 17,000 and the population of the City of Bristol, Virginia is 16,000.

(c) **Support of Proposed Assignments to Bristol.** Radio Phone Broadcasting Station supported the Commission's proposed assignment for Bristol, Tennessee, stating that the assignments proposed by the Commission were necessary to render service to that area.

(d) **Counterproposal of Appalachian Broadcasting Company, Bristol, Virginia.** Appalachian Broadcasting Company requested that the assignments proposed by the Commission to Bristol, Tennessee, also be assigned to Bristol, Virginia. It was urged that Bristol, Tennessee, and Bristol, Virginia, are adjacent municipalities separated by the state line; that although the two cities constitute one market, Bristol, Virginia, is, in many respects, the central community; that two colleges are located within the City of Bristol, Virginia, and that Bristol, Virginia compares favorably with Bristol, Tennessee, with respect to the number of retail stores, service establishments, wholesale establishments, manufacturing establishments and production works. No opposition was filed to the counterproposal of Appalachian Broadcasting Company.

Conclusions

756. It is our view that, on the basis of the common identity of the two communities, the assignments proposed in the Third Notice for Bristol, Tennessee, should be revised to provide those assignments to Bristol, Tennessee-Bristol, Virginia, rather than to Bristol, Tennessee, only. Accordingly, the assignments proposed by the Commission are revised to assign Channels 5 and 46 to Bristol, Tennessee-Bristol, Virginia.

NORTH CAROLINA EDUCATIONAL RESERVATIONS

757. (a) **Proposed Reservations.** In the Third Notice the Commission proposed the reservation of

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[154] Capital Broadcasting Company opposed the principle of reservation for non-commercial educational use in general in addition to the specific objection at Nashville.

[155] Capital Broadcasting Company, Nashville, Tennessee, filed a Motion to Strike the affidavit of Luke Medley submitted in support of the WHUB counterproposal, on the grounds that it was argumentative and an expression of the opinion of the affiant in all material respects and that such factual statements as appear in it are not material or relevant to any of the issues in this proceeding. WHUB, Inc., filed an opposition to the Motion to Strike saying that the affidavit is not argumentative and that it is a statement of facts which is material and relevant to the issues in this proceeding. The Motion to Strike is DENIED since it goes only to the weight to be given to the evidence and not to its admissibility as evidence in this proceeding.

[156] In arriving at this conclusion we have not relied on the filing dated November 13, 1951, by the JCET.

the following assignments for non-commercial educational use:

City	VHF Channel No.	UHF Channel No.
Asheville		*56
Chapel Hill	*4	
Charlotte [157]		*42
Durham		*40
Greensboro		*51
Raleigh		*22
Wilmington		*35
Winston-Salem [157]		*32

(b) **Asheville.** Western Carolina Teachers College, Cullowhee, North Carolina; City of Asheville, the Asheville Chamber of Commerce and the Asheville Schools and the JCET supported the reservation of Channel 56 in Asheville. No objection was filed to the proposed reservation.

(c) **Chapel Hill.** The JCET, the Chapel Hill Schools and the Consolidated University of North Carolina supported the reservation of Channel 4 in Chapel Hill for non-commercial educational use. No objection was filed to the proposed reservation.

(d) **Durham.** The Durham City Schools, Durham, North Carolina, Duke University and the JCET supported the reservation of Channel 40 in Durham for non-commercial educational use. No objection was filed to the proposed reservation.

(e) **Greensboro.** The Greensboro Public Schools, the Agricultural and Technical College, Greensboro, North Carolina, and The Consolidated University of North Carolina, Chapel Hill, North Carolina, the Board of Trustees of Greensboro City Administrative Unit and the JCET supported the reservation of Channel 51 at Greensboro for non-commercial educational use. No objection was filed to the proposed reservation.

(f) **Raleigh.** The Consolidated University of North Carolina at Chapel Hill, Raleigh and Greensboro and the JCET supported the reservation of Channel 22 at Raleigh for non-commercial educational use. Incorporated in the filing of the JCET were letters from the Raleigh Public Schools and the East Carolina College, Greenville, North Carolina, supporting the reservation. No objection was filed to the proposed reservation.

(g) **Wilmington.** The Board of Education, New Hanover County and Wilmington Schools, the County Council of the P.T.A. of New Hanover County, Wilmington College and Williston College and the JCET supported the reservation of UHF Channel 35 in Wilmington for non-commercial educational use. Incorporated in the filing of the JCET was a telegram from the State Superintendent of Public Instruction supporting the Wilmington reservation. No objection was filed to the proposed reservation.

Conclusions

758. On the basis of the record the reservations of the following assignments for non-commercial educational television use are finalized:

City	VHF Channel No.	UHF Channel No.
Asheville		*56
Chapel Hill	*4	
Durham		*40
Greensboro		*51
Raleigh		*22
Wilmington		*35

[157] The Charlotte and Winston-Salem educational reservations are discussed and finalized in another portion of this Report.

SPARTANBURG, COLUMBIA, SOUTH CAROLINA AND MIDDLESBOROUGH, KENTUCKY

759. (a) **Proposed Assignments and Reservation.** In the Third Notice the Commission proposed the following assignments and reservation:

City	VHF Channel No.	UHF Channel No.
Columbia	7, 10	*19, 25
Spartanburg		17
Middlesborough	7	57

(b) **Census Data.** The standard metropolitan area of Columbia has a population of 143,000 and the City of Columbia has a population of 87,000. The City of Spartanburg has a population of 37,000. The City of Middlesborough has a population of 14,500.

(c) **Counterproposal of Spartan Radiocasting Company.** Spartan Radiocasting Company requested the assignment of VHF Channel 7 to Spartanburg by deleting this assignment from Columbia and making the following changes in the assignments proposed in the Third Notice:

City	Third Notice VHF Channel No.	Third Notice UHF Channel No.	Counterproposal VHF Channel No.	Counterproposal UHF Channel No.
University, Ala.	*7		*2†	
Rome, Ga.	9	59	7†	59
Middlesborough, Ky.	7	57	10†	57
State College, Miss.	*2		*4†	
Columbia, S. C.	7, 10	*19, 25	†, 10	*19, 25
Spartanburg, S. C.		17	7†	17
Chattanooga, Tenn.	3, 12	43, 49, *55	3, 9†	43, 49, *55
Knoxville, Tenn.	6, 10	*20, 26	6, 12†	*20, 26

(d) **Statement in Support of Spartan Radiocasting Company Counterproposal.** Spartan Radiocasting Company urged that the assignment of VHF Channel 7 to Spartanburg in lieu of the assignment of that channel to Columbia, South Carolina, would result in a fairer, more efficient and equitable distribution of the available frequencies. It was contended that under the Commission's proposed assignments no Grade A VHF service would be available to a substantial number of persons in the Spartanburg area, and that in view of the size and particularly the economic importance of Spartanburg as compared with Columbia that the assignment of Channel 7 to Spartanburg is to be preferred. It was further urged that the operation of Channel 7 at Spartanburg would render service to a greater area and population than would the operation of this channel at Columbia. With respect to the population of the respective communities it was asserted by Spartan Radiocasting Company that Spartanburg County, in which the City of Spartanburg is located, has a population of 150,349 whereas Richland County, in which the City of Columbia is located has a population of 142,565. The counterproposal would result in a 188 mile co-channel assignment separation on Channel 2 between University, Alabama, and WSB-TV at Atlanta in Zone II.

(e) **Oppositions and Conflicting Counterproposals to the Spartan Radiocasting Company Counterproposal.** Oppositions and conflicting counterproposals were filed by the following parties; Meridian Broadcasting Company, Meridian, Mississippi; Southeastern Broadcasting Company and Middle Georgia Broadcasting Company, Macon, Georgia; Johnstown Broadcasting Company and Voice of Dixie, Inc., Birmingham, Alabama; Tuscaloosa Broadcasting Company, Tuscaloosa, Alabama; Radio Athens, Inc., Athens, Georgia; The Broadcasting Company of the South and Intercity Advertising Company, Charlotte, North Carolina; Atlanta Newspapers, Inc., Atlanta, Georgia; Marseco Broadcasting Company, Palmetto Broadcasting Corp., and the City of Columbia, Columbia, S. C.

(f) Marseco Broadcasting Company, Palmetto Broadcasting Corp., and the City of Columbia urged that Columbia is the Capital of the State, that it is the largest city in the State and that it is centrally located within the State, that the population of the City of Columbia is 104,843 which is more than twice the population of the City of Spartanburg and is entitled under Section 307(b) of the Communications Act to a second VHF channel in preference to a first VHF to the City of Spartanburg. It was further urged that the economic importance and educational interests of the City of Columbia justified the retention of the second VHF channel in Columbia. Further, it was urged that evidence adduced on behalf of the counterproposal of Spartan Radiocasting Company did not include data with respect to the UHF services that would be available to the area that would be served by the operation of Channel 7 in Spartanburg and that in fact between four and eleven other services would be available to the Grade B service area of a station operating on Channel 7 in Spartanburg.

Columbia

760. **The Columbia Educational Reservation.** The JCET supported the reservation of Channel 19 at Columbia for non-commercial educational use. Attached to its filing was a sworn statement of Benedict College at Columbia expressing a definite interest in the channel. The JCET submitted sworn statements of support from the Mayor of Columbia, The University of South Carolina at Columbia, and the Superintendent of Schools in Columbia. No objections to the proposed reservation were filed.

Conclusions: Columbia Educational Reservation

761. On the basis of the record the reservation of Channel 19 at Columbia for non-commercial educational use is finalized.

Conclusions: Additional VHF Assignment to Spartanburg

762. We believe on the basis of the record that a VHF channel should be assigned to Spartanburg as proposed by Spartan Radiocasting Company. We have in this Report consistently followed the policy that cities of the size and importance of Spartanburg will be assigned a first VHF assignment before another community will be assigned a second VHF assignment. In view of the size of the City of Spartanburg and the extensive population living in the surrounding area in Spartanburg County, we believe the record requires the deletion of one of the two VHF assignments proposed for Columbia so that Spartanburg may receive a first VHF assignment. However, because of the mileage separation of 188 miles on Channel 2 between University, Alabama, and Atlanta, Georgia (WSB-TV), the Commission is unable to grant the proposal of Spartan Radiocasting Company. Channel 7, however, may be assigned to Spartanburg by the deletion of that channel from Middlesborough, Kentucky, a city of 14,500. We believe, on the basis of the record, in view of the size and importance of Spartanburg and the extensive population surrounding Spartanburg that Channel 7 should be deleted from Middlesborough, Kentucky, in order to make possible the assignment of Channel 7 to Spartanburg. We believe, however, in view of these reassignments that Channel 67 should be assigned to Columbia, South Carolina, and Channel 63 to Middlesborough, Kentucky.

Final Assignments and Reservation

763. The following assignments are adopted:

City	VHF Channel No.	UHF Channel No.
Columbia, S. C.	10	*19, 25, 67
Spartanburg, S. C.	7	17
Middlesborough, Ky.		57, 63

CHARLESTON, CLEMSON AND GREENVILLE, SOUTH CAROLINA

764. (a) **Proposed Assignments and Reservations.** In the Third Notice the Commission proposed the following assignments and reservations:

City	VHF Channel No.	UHF Channel No.
Charleston	2, 5, *13	
Greenville	4	23, *29

No channel was assigned to Clemson in the Third Notice.

(b) **Charleston Educational Reservation.** The JCET supported the reservation of Channel 13 in Charleston for non-commercial educational use. Attached to its filing were statements of support from the Medical College of the State of South Carolina and the Charleston Public Schools at Charleston. The College stated that it has under construction a large teaching hospital and laboratory addition, and has provided in plans and specifications for the development of educational television. No objection was made to the proposed reservation.

(c) **Clemson Educational Reservation.** Clemson Agricultural College requested that a channel be assigned to Clemson and that it be reserved for educational use. Clemson College stated that it originates remote live broadcasts which are carried by Radio Stations WSPA, Spartanburg, and WIS, Columbia and that it furnishes a transcription service to 26 radio stations. The Board of Trustees indicated that they are planning to survey the matter of costs of con-

struction and operation of a television station, and that a television station would be used in the agricultural extension program of the College. Since Clemson has a population of approximately 3,000, the College stated that it was unlikely that a commercial station would be established in the community.

(d) **Statement in Support of Greenville Assignments.** Greenville News-Piedmont Company, Greenville, South Carolina, supported the Commission's proposed assignments for Greenville. It was asserted that the assignments proposed by the Commission meet the Commission's standards for minimum separation of co-channel and adjacent channel stations; that the operation of a VHF channel in Greenville would render service to a substantial population and area; that the wholesale and retail trade sales each approximate one-half billion dollars and that there are more than 100,000 employees within the coverage area of the station with a payroll of nearly a quarter of a million dollars. It was asserted that the importance of the area establishes the need for the assignments proposed by the Commission. No oppositions to the Commission's proposed assignments for Greenville have been filed in this proceeding.

(e) **The Greenville Educational Reservation.** Furman University at Greenville and JCET supported the reservation of Channel 29 in Greenville for use by a non-commercial educational station. The University stated that it was surveying the costs of construction and operation. The University reported that it has assets amounting to over 5 million dollars, and in addition is one of the beneficiaries in the Duke Endowment to the extent of 5 percent of the income from a fund of $40,000,000. The JCET submitted a statement of the School District of Greenville County in support of the reservation. No objection was made to the proposed reservation.

Conclusions

765. On the basis of the record the following assignments and reservations are adopted:

City	VHF Channel No.	UHF Channel No.
Charleston	2, 5, *13	
Clemson		*68
Greenville	4	23, *29

ATHENS, ATLANTA, MACON, GEORGIA

766. (a) **Proposed Assignments and Reservations.** In the Third Notice the Commission proposed the following assignments and reservations:

City	VHF Channel No.	UHF Channel No.
Athens	*8	60
Atlanta	2, 5, 11	*30, 36
Macon	13	*41, 47

(b) **Census Data.** The City of Athens has a population of 28,000. The standard metropolitan area of Atlanta has a population of 672,000 and the City of Atlanta has a population of 331,000. The standard metropolitan area of Macon has a population of 135,000 and the City of Macon has a population of 70,000.

(c) **Existing Stations.** Broadcasting, Inc., is licensed for the operation of Station WLTV, Atlanta, Georgia, on Channel 8. The Commission ordered Broadcasting, Inc., formerly Atlanta Newspapers, Inc., to show cause why the license of WLTV (formerly WSB-TV) should not be modified to specify operation on Channel 11 in lieu of Channel 8. No opposition to the Order to Show Cause was filed by Broadcasting, Inc. The Fort Industry Company is licensed for the operation of Station WAGA-TV, Atlanta on Channel 5. Atlanta Newspapers, Inc., has a construction permit for Station WSB-TV, Atlanta, on Channel 2 an is operating under special authority.

Athens

767. (a) **The Athens Educational Reservation.** The University of Georgia supported the reservation of Channel 8 in Athens for non-commercial educational use. The University described its experience in producing radio and television programs over commercial stations. The University stated that its committee on television has been considering the problems presented by the construction and operation of an educational television station including such matters as the services to be rendered, programming methods, the cost of installation and annual operating costs, and the administrative organization. It estimated that the cost of constructing a television station would be between $250,000 and $300,000, and that by utilizing staff personnel it could operate with an annual budget of $100,000.

(b) **Counterproposals of Radio Athens, Inc.** Radio Athens, Inc. submitted two alternative counterproposals for the additional assignment of one commercial VHF channel to Athens. The first alternative counterproposal requested the reservation of UHF Channel 60 for non-commercial use in lieu of Channel 8 and the assignment of Channel 8 in Athens for commercial use. The second alternative proposal requested the assignment of VHF Channel 11 in Athens by making the following changes in the assignments proposed in the Third Notice:

City	Counterproposal VHF Channel No.	Counterproposal UHF Channel No.	Third Notice VHF Channel No.	Third Notice UHF Channel No.
Huntsville, Ala.		31	11†	31
Athens, Ga.	*8	60	*8, 11†	60
Atlanta, Ga.	2, 5, 11	*30, 36	2, 5, 7†	*30, 36

(c) **Statement in Support of Radio Athens Counterproposals.** In support of the request for the reservation of a UHF channel in lieu of a VHF channel in Athens for non-commercial educational use, Radio Athens asserted that it had, in the operation of Station WRFC, cooperated with the University in the broadcast of educational programs; that the construction of an educational station would be delayed for a long period of time; and that commercial interests would construct a station immediately in order to meet the need for television service.

(d) In support of the counterproposal to add Channel 11 to Athens it was urged that the operation of Channel 11 in Athens would meet the Commission's requirements for minimum separation of co-channel and adjacent channel stations; that the closest co-channel separation resulting from the operation of Channel 11 in Athens would be at Johnson City, Tennessee, at a distance of 173 miles; that the closest adjacent channel separation under the counterproposal would be between Atlanta on Channel 7 and Athens on Channel 8 at a distance of 60 miles. It was further urged that the counterproposal would assign a second channel to Huntsville, Alabama.

(e) The counterproposal would, in addition, result in a co-channel assignment separation of 185 miles on Channel 7 between Atlanta and University, Alabama, in Zone II.

(f) **Oppositions and Conflicting Counterproposals to the Radio Athens Counterproposal.** Oppositions and conflicting counterproposals were filed by the following parties: Southeastern Broadcasting Company and Middle Georgia Broadcasting Company, Macon, Georgia; Spartan Radiocasting Company, Spartanburg, South Carolina; WEAS, Inc., Decatur, Georgia; Georgia Institute of Technology, Atlanta, Georgia; Johnstown Broadcasting Company and Voice of Dixie, Inc., Birmingham, Alabama; Broadcasting, Inc., Atlanta, Georgia and WJKL, Inc., Johnson City, Tennessee.

Atlanta

768. (a) **Counterproposals of WEAS, Inc., Decatur, Georgia and Georgia Institute of Technology, Atlanta, Georgia.** WEAS, Inc. requested the assignment of Channel 8 to Atlanta by the deletion of that channel from Athens, where it was proposed to be reserved by the Commission for non-commercial educational use. In identical counterproposals the Georgia Institute of Technology and WEAS, Inc., requested the additional assignment of Channel 7 to Atlanta. The addition of Channel 7 to Atlanta would be accomplished with no other changes in the assignments proposed in the Third Notice.

(b) **Statement in Support of the WEAS and Georgia Institute of Technology, Counterproposal.** In support of its counterproposals to assign Channel 8 to Atlanta by deleting this assignment from Athens WEAS urged that the Atlanta area was the most important center of industry and population in the entire south and that a nationwide television service required at least four commercial VHF stations in Atlanta. It was further asserted that Atlanta would be deprived of service by one of the major networks unless it was assigned four commercial VHF channels.

(c) In support of the identical counterproposal of Georgia Institute and WEAS it was urged that the assignment of Channel 7 to Atlanta would not violate any of the Commission's standards for minimum separation of co-channel and adjacent channel stations; that the nearest co-channel assignment resulting from its counterproposal would be at University, Alabama, a distance of 185 miles, and the nearest adjacent channel assignment would be Channel 8 at Athens, Georgia, at a distance of 60 miles. It was further urged that the assignment of Channel 7 to Atlanta would result in a net gain of VHF service to a substantial area and population.

(d) **Conflicting Counterproposals to the WEAS and Georgia Institute of Technology Counterproposals.** Conflicting counterproposals were filed by the following parties: Radio Athens, Inc., Athens, Georgia; Southeastern Broadcasting Company and Middle Georgia Broadcasting Co., Macon, Georgia; Johnstown Broadcasting Co. and Voice of Dixie, Inc., Birmingham, Alabama; Spartan Radiocasting Co., Spartanburg, S.C.; and Broadcasting Company of the South and Intercity Advertising Co., Charlotte, North Carolina.

(e) **The Atlanta Educational Reservation.** The Atlanta Board of Education supported the reservation of Channel 30 in Atlanta for non-commercial educational use. The Board of Education stated that it has been licensed to operate a non-commercial educational FM station, WABE-FM since 1949; that the facilities of this station have been made available to six public school systems, serving 4,100 classrooms and 125,000 students; and that the Board has one of the finest film libraries which would be available for use on television. It was also stated that various FM programs produced by the Board could be adopted for television presentation. No objection was filed to the proposed reservation.

Macon

769. (a) **The Macon Educational Reservation.** The JCET supported the reservation of Channel 41 in Macon, Georgia, and submitted a statement in support of this reservation from Mercer University at Macon. No objections to the proposed reservation were filed.

(b) **Joint Counterproposal of Southeastern Broadcasting Company and Middle Georgia Broadcasting Company.** In a joint counterproposal Southeastern Broadcasting Company and Middle Georgia Broadcasting Company requested the additional assignment of Channel 7 to Macon, Georgia. No other changes in the assignments proposed in the Third Notice were requested.

(c) **Statement in Support of Southeastern Broadcasting Company and Middle Georgia Broadcasting Company Counterproposal.** It was urged that the assignment of Channel 7 to Macon was in accordance with the Commission's standard for minimum separation of co-channel and adjacent channels. It was stated that the closest co-channel separation to Macon on Channel 7 would be at Columbia, South Carolina, at a distance of 170 miles. Further it was urged that the operation of Channel 7 at Macon would result in a net gain of service to a substantial area and population.

(d) **Oppositions and Conflicting Counterproposals to Southeastern Broadcasting Company and Middle Georgia Broadcasting Company Counterproposal.** Oppositions and conflicting counterproposals were filed by the following parties: Radio Athens, Inc., Athens, Georgia; WEAS, Inc., Decatur, Georgia; Georgia Institute of Technology, Atlanta, Georgia; Spartan Radiocasting Company, Spartanburg, South Carolina; Broadcasting

Company of the South and Intercity Advertising Company, Charlotte, North Carolina and Marseco Broadcasting Company, Columbia, South Carolina.

Conclusions: Athens Educational Reservation

770. The request of Radio Athens, Inc., for the shift of the educational reservation in Athens to a UHF channel is based on the asserted need of that city for the assignment of a VHF commercial channel. The request of WEAS, Inc., for the deletion of Channel 8 from Athens in order to assign that channel to Atlanta is based on the asserted need of Atlanta for a fourth VHF channel. On the other hand, the University of Georgia has established its interest in constructing a station to serve the community and believes that the maintenance of the reservation will serve to aid the University in its plan.

771. With respect to the request of WEAS, Inc., we find no merit in the deletion of the only VHF channel from Athens to provide a fourth VHF channel to Atlanta. With respect to both requests for the deletion of the reservation it is to be noted that Athens has been designated as a "primarily educational center." In the Third Notice, we stated that we would reserve, where possible, a VHF channel for non-commercial use in primarily educational centers. We see no basis in the record for deviating here from this policy. Accordingly, the counterproposal of Radio Athens, Inc., is denied in so far as it requests the reservation of a UHF channel in lieu of a VHF channel in Athens for noncommercial educational use; and the counterproposal of WEAS, Inc., for the deletion of Channel 8 from Athens is denied. The reservation of VHF Channel 8 in Athens for non-commercial educational use is finalized.

Conclusions: Requests for Additional VHF Assignments in Athens, Atlanta and Macon

772. The counterproposals seeking the additional assignment of a VHF channel to Athens, Atlanta and Macon, respectively would result in the following co-channel assignment separations below 190 miles in Zone II:

Counterproposal	Channel	Cities	Miles
Radio Athens, Inc. (II)	11	Athens—Johnson City	173
Radio Athens, Inc. (II)	7	Atlanta—University	185
WEAS, Inc. & Ga. Inst. of Tech.	7	Atlanta—University	185
S. E. Broadcasting Co. & Middle Georgia Broadcasting Co.	7	Macon—Columbia	170

Since the minimum separation of co-channel stations in Zone II is 190 miles these counterproposals must be denied. Accordingly, the counterproposals of Radio Athens, WEAS, Inc., Georgia Institute of Technology, Southeastern Broadcasting Company and Middle Georgia Broadcasting Company, are denied.

773. An appropriate authorization will be issued to Broadcasting, Inc., to specify operation of WLTV on Cannel 11.

Conclusions: Atlanta and Macon Educational Reservations

774. On the basis of the record the reservation of Channel 30 in Atlanta and Channel 41 in Macon are finalized.

Final Assignments and Reservations

775. The following assignments and reservations are adopted:

City	VHF Channel No.	UHF Channel No.
Athens	*8	60
Atlanta	2, 5, 11	*30, 36
Macon	13	*41, 47

COLUMBUS AND SAVANNAH, GEORGIA, EDUCATIONAL RESERVATIONS

776. (a) **Proposed Reservations.** In the Third Notice the Commission proposed to reserve the following assignments for non-commercial educational use:

City	VHF Channel No.	UHF Channel No.
Columbus		*34
Savannah	*9	

(b) **Columbus.** The JCET supported the reservation of Channel 34 in Columbus for non-commercial educational use. No objection was made to the reservation.

(c) **Savannah.** The JCET supported the reservation of Channel 9 in Savannah for non-commercial educational use. No objection was made to the proposed reservation.

Conclusions

777. On the basis of the record the reservation of Channels 34 and 9 in Columbus and Savannah, respectively, for non-commercial educational use is finalized.

DAYTONA BEACH AND TALLAHASSEE, FLORIDA

778. (a) **Proposed Assignments and Reservation.** In the Third Notice the Commission proposed the following assignments and reservation:

City	VHF Channel No.	UHF Channel No.
Daytona Beach	2	
Tallahassee	2, *11	24

(b) The foregoing proposed assignments would result in a separation of 214 miles between Daytona Beach and Tallahassee on Channel 2 in Zone III.

(c) **Census Data.** The City of Daytona Beach has a population of 30,000. The City of Tallahassee has a population of 27,000.

(d) **Tallahassee Educational Reservation.** The JCET and Florida State University supported the reservation of VHF Channel 11 in Tallahassee for non-commercial educational use. The University stated that the reservation was necessary to provide it with the time to obtain funds and organize its resources. No objection to the reservation was filed.

Conclusions: Deletion of Proposed VHF Assignment

779. In the Third Notice the Commission proposed the assignment of Channel 2 to Daytona Beach and Tallahassee at a separation of 214 miles in Zone III. Since this separation in Zone III is below the minimum adopted herein for zone III we are required to delete one of the two assignments to comply with the separation requirements. The population of Daytona Beach is somewhat larger than the population of Tallahassee and Channel 2 is the only assignment proposed for Daytona Beach. On the other hand three channels were proposed to be assigned to Tallahassee. In view of the relative size of these cities and the number of channels proposed to be assigned to these cities, we believe the deletion of Channel 2 from Tallahassee and the assignment of that channel to Daytona Beach is warranted. In replacement for Channel 2 in Tallahassee we are assigning UHF Channel 51.

Conclusions: Tallahassee Educational Reservation

780. On the basis of the record the reservation of Channel 11 in Tallahassee for non-commercial educational use is finalized.

Final Assignments and Reservation

781. The following assignments and reservation are adopted:

City	VHF Channel No.	UHF Channel No.
Daytona Beach	2	
Tallahassee	*11	24, 51

PENSACOLA, FLORIDA, ALBANY, GEORGIA AND JACKSON, MISSISSIPPI

782. (a) **Proposed Assignments and Reservations:** In the Third Notice the Commission proposed the following assignments and reservations:

City	VHF Channel No.	UHF Channel No.
Pensacola	3, 10	15, *21
Albany	10	25
Jackson	3, 12	*19, 25

(b) The foregoing proposed assignments would result in the following separations below 220 miles in Zone III:

Channel	Cities	Separation
3	Pensacola-Jackson	218
10	Pensacola-Albany	199

(c) **Census Data.** The City of Pensacola has a population of 43,000. The City of Albany has a population of 31,000. The standard metropolitan area of Jackson has a population of 142,000. The City of Jackson has a population of 98,000.

Pensacola

783. **The Educational Reservation.** C. P. Mason, Mayor of Pensacola, supported the reservation of UHF Channel 21 in Pensacola for non-commercial educational use. No objection to the reservation was filed.

Jackson

784. (a) **Counterproposal of Lamar Life Insurance Co., Jackson, Mississippi.** Lamar Life Insurance Company requested the additional assignment of VHF Channel 5 to Jackson by making the following changes in the assignments proposed in the Third Notice:

City	Third Notice VHF Channel No.	Third Notice UHF Channel No.	Proposal VHF Channel No.	Proposal UHF Channel No.
Jackson	3, 12	*19, 25	3, 5†, 12	*19, 25
Mobile	5, 8	*42, 48	8, 10†	*42, 48
Pensacola	3, 10	15, *21	3, 5†	15, *21

(b) **Statement in Support of Lamar Life Insurance Co. Counterproposal.** It was asserted that the assignment of VHF Channel 5 to Jackson would not result in the reduction of the number of VHF assignments proposed by the Commission for any other city in the Third Notice; and that the lowest co-channel separation resulting under the counterproposal would be Lafayette, Louisiana, on Channel 5 at a distance of 180 miles. The counterproposal would, in addition, result in the following co-channel assignment separations below 220 miles in Zone III:

Channel	Cities	Mileage
5	Pensacola, Fla.-Jackson, Miss.	218
10	Mobile, Ala.-Baton Rouge, La.	188

(c) **Oppositions and Conflicting Counterproposals to the Lamar Life Insurance Co. Counterproposal.** The following parties filed oppositions and conflicting counterproposals to the counterproposal of Lamar Life Insurance Co.: Giddens and Rester, Mobile, Alabama; the Houston Post Co., licensee of Station KPRC-TV, Houston, Texas; Voice of Longview, Longview, Texas; and Deep South Broadcasting Co., Montgomery, Alabama.

(d) **The Jackson Educational Reservation.** The JCET supported the reservation of UHF Channel 19 in Jackson for non-commercial educational use. No objection to the reservation was filed.

Conclusions: Deletion of Proposed Assignment

785. In the Third Notice the Commission proposed the assignment of Channel 3 to Pensacola and to Jackson at a separation of 218 miles; and the assignment of Channel 10 to Pensacola, and to Albany at a separation of 199 miles. Since these separations are below the minimum for Zone III we are required to delete one assignment of Channel 3 and one assignment of Channel 10 to provide the requisite seperations.

786. With respect to Channel 10 we are presented with the choice of deleting that channel from Pensacola or Albany. The City of Pensacola with a population of 43,000 is somewhat larger than the City of Albany. In the Third Notice two VHF and two UHF channels were proposed to be assigned to Pensacola, and only one VHF and one UHF channel were proposed to be assigned to Albany. In view of the fact that Channel 10 is the only channel proposed for Albany we believe that the deletion of that channel from Pensacola and the assignment to Albany is warranted. In replacement for Channel 10 in Pensacola we are assigning UHF Channel 46. With respect to Channel 3 we are presented with the choice of deleting that channel from Pensacola or from Jackson. The City of Jackson has a population of 98,000 and the standard metropolitan area has a population of 142,000. In the Third Notice we proposed the assignment of two VHF and two UHF channels to Jackson. Since our decision herein has deleted Channel 10 from Pensacola, there remains assigned to that city only one VHF channel. It is our view that the deletion of the second channel assigned to Jackson is to be preferred to the deletion of the only remaining VHF channel assigned to Pensacola. In replacement for VHF Channel 10 in Jackson we are assigning UHF Channel 47.

Conclusions: Request for VHF Assignment in Jackson

787. Since the counterproposal of Lamar Life Insurance Company for the assignment of Channel 5 to Jackson would create a co-channel assignment separation of 180 miles between Jackson and Lafayette, Louisiana, on Channel 5, 218 miles between Pensacola, Florida, and

Jackson, Miss., on Channel 5, and 188 miles between Mobile, Alabama and Baton Rouge, Louisiana, on Channel 10, in Zone III, the counterproposal is denied.

Conclusions: Jackson Educational Reservation

788. On the basis of the record the reservation of UHF Channel 21 in Pensacola and UHF Channel 19 in Jackson are finalized.

Final Assignments and Reservations

789. The following assignments and reservations are adopted:

City	VHF Channel No.	UHF Channel No.
Pensacola, Fla.	3	15, *21, 46
Albany, Ga.	10	25
Jackson, Miss.	12	*19, 25, 47

AUBURN, MOBILE, AND UNIVERSITY, ALABAMA EDUCATIONAL RESERVATIONS

790. (a) **Proposed Reservations.** In the Third Notice the Commission proposed the following reservations for non-commercial educational use:

City	VHF Channel No.	UHF Channel No.
Auburn		*56
Mobile		*42
University	*7	

(b) **Auburn.** The Alabama Polytechnic Institute and JCET supported the reservation of Channel 56 in Auburn for non-commercial educational use. No objection was filed to this proposed reservation.

(c) **Mobile.** The JCET and the Mobile Public Schools supported the reservation of Channel 42 in Mobile for non-commercial educational use. No objection to the proposed reservation was filed.

(d) **University.** The University of Alabama supported the reservation of Channel 7 in University for non-commercial educational use, and submitted letters in support of the reservation of VHF Channel 7 from the Superintendent, City Schools, Tuscaloosa, Alabama, the Superintendent of the Tuscaloosa County Schools and the State Superintendent of Education. The University of Alabama stated through its President that it has had more than twenty years of experience in educational radio broadcasting and that "It is our sincere hope that we shall be able to begin operating our own television station within a period of two or three years following the final allocation of television channels." No one objected to the proposed reservation of VHF Channel 7 for educational purposes in University, Alabama.[158]

Conclusions

791. On the basis of the record, the following reservations for non-commercial educational use are finalized:

City	VHF Channel No.	UHF Channel No.
Auburn		*56
Mobile		*42
University	*7	

BIRMINGHAM, MONTGOMERY, AND TUSCALOOSA, ALABAMA

792. (a) **Proposed Assignments and Reservations.** In the Third Notice the Commission proposed the following assignments and reservations:

City	VHF Channel No.	UHF Channel No.
Birmingham	6, *10, 13	42, 48
Montgomery	12	20, *26, 32
Tuscaloosa		45, 51

(b) **Census Data.** The standard metropolitan area of Birmingham has a population of 559,000 and the City of Birmingham has a population of 326,000. The standard metropolitan area of Montgomery has a population of 139,000 and the City of Montgomery has a population of 107,000. The City of Tuscaloosa has a population of 46,000.

(c) **Existing Stations.** Voice of Alabama, Inc., is licensed for the operation of Station WAFM-TV, Birmingham, Alabama, on Channel 13. Birmingham Broadcasting Company is licensed for the operation of Station WBRC-TV, Birmingham, Alabama, on Channel 4. The Commission ordered Birmingham Broadcasting Company to show cause why the license of WBRC should not be modified to specify operation on Channel 6 in lieu of Channel 4. Birmingham Broadcasting Company stated that it did not object to the modification of license of WBRC-TV to specify Channel 6.

Birmingham

793. (a) **The Birmingham Educational Reservation.** The Jefferson County Board of Education and the JCET supported the reservation of Channel 10 in Birmingham for non-commercial educational use. The Jefferson County Board of Education requested the permanent reservation of VHF Channel 10 until the five public school systems and three institutions of higher learning in Jefferson County could perfect arrangements for establishing and maintaining an educational television station.

(b) **Counterproposals of Johnston Broadcasting Company and Voice of Dixie, Inc., Birmingham, Alabama.** Johnstown Broadcasting Company and Voice of Dixie, Inc., in separate counterproposals, requested the additional assignment of Channel 7 to Birmingham. Johnstown Broadcasting Company requested the assignment of Channel 7 by making the following changes in the assignments proposed in the Third Notice:

City	Third Notice VHF Channel No.	Third Notice UHF Channel No.	Counterproposal VHF Channel No.	Counterproposal UHF Channel No.
Birmingham, Ala.	6, *10, 13	42, 48	6, 7†, *10, 13	42, 48
University, Ala.	*7		*2†	
State College, Miss.	*2		*4†	

Voice of Dixie, Inc., requested the additional assignment of Channel 7 by making the following changes in the assignments proposed in the Third Notice:

City	Third Notice VHF Channel No.	Third Notice UHF Channel No.	Counterproposal VHF Channel No.	Counterproposal UHF Channel No.
Birmingham, Ala.	6, *10, 13	42, 48	6, 7†, *10, 13	42, 48
University, Ala.	*7		*2†	
Meridian, Miss.	11	30, *36	4†	30, *36
State College, Miss.	*2		*8†	
West Point, Miss.	8	56	11†	56

(c) **Statement in Support of Johnston Broadcasting Company and Voice of Dixie, Inc. Counterproposals.** In support of both counterproposals for the additional assignment of Channel 7 to Birmingham it was urged that two stations are presently on the air in Birmingham and that there are 60,000 sets in the area that would receive service from the operation of an additional VHF station in that community. It was also urged that UHF stations are undesirable in the Birmingham area because of the mountainous terrain, and because licensees of UHF stations would not be able to compete successfully with VHF operations. In addition it was urged by Voice of Dixie, Inc., that a grant of its counterproposal would permit the operation of Channel 11 in Biloxi as requested by Deep South Broadcasting Company. The counterproposals would result in the following co-channel assignment separations:

Channel	Cities	Mileage	Zone
2	University, Ala.—Atlanta, Ga. (WSB-TV)	188	II
4	Meridian, Miss.-New Orleans, La.	185	III

(d) **Oppositions and Conflicting Counterproposals to Johnstown Broadcasting Co. and Voice of Dixie, Inc.** Oppositions and conflicting counterproposals were filed by the following parties: WEAS, Inc. and Georgia Institute of Technology, Atlanta, Georgia, Radio Athens, Inc., Athens, Georgia, Tuscaloosa Broadcasting Co., Tuscaloosa, Ala., Spartan Radiocasting Co., Spartanburg, S. C., Atlanta Newspapers, Inc. (now Broadcasting, Inc.), Atlanta, Ga., and Deep South Broadcasting Co., Montgomery, Ala.

Montgomery

794. (a) **Counterproposal of Deep South Broadcasting Company.** Deep South Broadcasting Company requested the additional assignment of VHF Channel 3 to Montgomery by making the following changes in the assignments proposed in the Third Notice:

City	Third Notice VHF Channel No.	Third Notice UHF Channel No.	Counterproposal VHF Channel No.	Counterproposal UHF Channel No.
Montgomery, Ala.	12	20, *26, 32	3†, 12	20, *26, 32
Pensacola, Fla.	3, 10	15, *21	10, 13†	15, *21
Biloxi, Miss.	13	*44, 50	11†	*44, 50
Meridian, Miss.	11	30, *36	4†	30, *36

(b) **Statement in Support of Deep South Broadcasting Company Counterproposal.** Deep South urged that the assignment of VHF Channel 3 to Montgomery and the other changes requested in the counterproposal are in accordance with the Commission's standards for minimum co-channel and adjacent channel station separation. It was stated that the nearest co-channel assignment to Montgomery on Channel 3 would be at Chattanooga at a distance of 193 miles and that the nearest adjacent channel would be at Columbus, Georgia, on Channel 4 at a distance of 77 miles. In further support of the counterproposal it was urged that the size, economic importance and population of Montgomery required the assignment of a second VHF channel to that community. The counterproposal would result in a 185-mile co-channel assignment separation between Meridian, Miss., and New Orleans, La., on Channel 4 in Zone III.

(c) **Oppositions and Counterproposals to Deep South Broadcasting Co. Counterproposal.** Oppositions to the counterproposal of Deep South Broadcasting Company were filed by the following parties: Loyola University of the South, New Orleans, La., Lamar Life Insurance Company, Jackson, Miss., Meridian Broadcasting Co., Meridian, Miss., Tuscaloosa Broadcasting Co., Tuscaloosa, Ala., Voice of Dixie, Inc., and Johnston Broadcasting Co., Birmingham, Ala.

(d) **The Montgomery Educational Reservation.** The Montgomery Public Schools and the JCET supported the reservation of Channel 26 in Montgomery for non-commercial educational use. No Objection was filed to the proposed reservation.

Tuscaloosa

795. (a) **Counterproposal of Tuscaloosa Broadcasting Company.** Tuscaloosa Broadcasting Company requested the additional assignment of VHF Channel 2 to Tuscaloosa. This additional assignment of Channel 2 to Tuscaloosa would be accomplished by the substitution of Channel 4 for educational

[158] The Tuscaloosa Broadcasting Company, Tuscaloosa, Ala., proposed as part of one of its plans to add a VHF channel in Tuscaloosa to shift the VHF channel in University, Ala., from VHF Channel 7 to VHF Channel 2. The same shift for University, Ala., was proposed by the Voice of Dixie, Inc., Birmingham, Ala., as part of its plan to add VHF Channel 7 to Birmingham. Neither company objected to the reservation of a VHF channel in University, Ala. The Commission has, however, in another portion of this Report denied the requests of the Tuscaloosa Broadcasting Company, Tuscaloosa, Ala., and the Voice of Dixie, Inc., Birmingham, Ala. Accordingly, no shift in the proposed VHF reservation is required.

use in State College, Miss., as follows: [159]

City	Third Notice		Counterproposal 1	
	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.
Tuscaloosa, Ala.				
State College, Miss.	*2	45, 51	2† *4†	45, 51

(b) **Statement in Support of Tuscaloosa Broadcasting Co. Counterproposal.** It was urged that the additional assignment of Channel 2 to Tuscaloosa would meet the Commission's standards for minimum separation of co-channel and adjacent channel stations. It was urged that the operation of Channel 2 in Tuscaloosa would provide service to a substantial area and population. The counterproposal would result in a 188 mile co-channel assignment separation between University and WSB-TV at Atlanta on Channel 2 in Zone II.

(c) **Oppositions and Conflicting Counterproposals to Tuscaloosa Broadcasting Co. Counterproposal.** Oppositions and conflicting counterproposals were filed by the following parties: Spartan Radiocasting Co., Spartanburg, S. C., Johnstown Broadcasting Co., and Voice of Dixie, Inc., Birmingham, Ala., Deep South Broadcasting Co., Montgomery, Ala., Atlanta Newspapers, Inc., Atlanta, Ga., and Meridian Broadcasting Co., Meridian, Miss.

Conclusions: The Birmingham and Montgomery Educational Reservations

796. On the basis of the record the reservations of Channel 10 in Birmingham and Channel 26 in Montgomery, for non-commercial educational use are finalized.

Conclusions: Requests for Additional VHF Assignments in Birmingham, Montgomery and Tuscaloosa

797. The counterproposals seeking the additional assignment of a VHF channel to Birmingham, Montgomery, and Tuscaloosa, respectively, would result in the following co-channel assignment separations:

Counterproposal	Channel	Cities	Miles	Zone
Johnstown Broadcasting Co.	2	University-Atlanta (WSB-TV)	188	II
Voice of Dixie, Inc.	2	University-Atlanta	188	II
Voice of Dixie, Inc.	4	Meridian-New Orleans	185	III
Deep South B/cng. Co.	4	Meridian-New Orleans	185	III
Deep South B/cng. Co.	4	University-Atlanta (WSB-TV)	188	II

798. Since the minimum separations of co-channel stations in Zones II and III are 190 and 220 miles, respectively, these counterproposals must be denied. Accordingly, the counterproposals of Johnstown Broadcasting Co., Voice of Dixie, Inc., Deep South Broadcasting Co., and Tuscaloosa Broadcasting Co. are denied.

799. **Conclusions: Show Cause Order.** An appropriate authorization will be issued to Birmingham Broadcasting Company to specify operation of Station WBRC-TV on Channel 6 in lieu of Channel 4.

Final Assignments and Reservations

800. The following assignments and reservations are adopted:

City	VHF Channel No.	UHF Channel No.
Birmingham	6, *10, 13	42, 48
Montgomery	12	20, *26, 32
Tuscaloosa		45, 51

MERIDIAN, MISSISSIPPI

801. (a) **Proposed Assignments and Reservation.** In the Third Notice the Commission proposes the following assignments and reservation:

City	VHF Channel No.	UHF Channel No.
Meridian	11	30, *36

(b) **Census Data.** The City of Meridian has a population of 42,000.

(c) **Counterproposal of Meridian Broadcasting Company, Meridian, Mississippi.** Meridian Broadcasting Company requested the additional assignment of VHF Channel 4 to Meridian. No other changes in the assignments proposed in the Third Notice were requested. The counterproposal of Meridian Broadcasting Company is mutually exclusive with the counterproposals of Tuscaloosa Broadcasting Company, Tuscaloosa, Ala., Voice of Dixie, Inc., and Johnstown Broadcasting Co., both of Birmingham, Ala. However, it was suggested by Meridian Broadcasting Company that the conflict between the counterproposals requesting an additional assignment to Tuscaloosa and Meridian could be resolved as follows:

City	Third Notice		Counterproposal	
	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.
Tuscaloosa, Ala.		45, 51	2†	45, 51
Meridian, Miss.	11	30, *36	4†, 11	30, *36
State College, Miss.	*2		*8†	
West Point, Miss.	8	56	†	56

Alternatively it was also suggested by Meridian Broadcasting Company that the conflict between the counterproposals seeking an additional assignment to Birmingham and Meridian could be resolved as follows:

City	Third Notice		Counterproposal	
	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.
Birmingham, Ala.	6, *10, 13	42, 48	6, 7†, *10, 13	42, 48
University, Ala.	*7		*2†	
Meridian, Miss.	11	30, *36	4†, 11	30, *36
State College, Miss.	*2		*8†	
West Point, Miss.	8	56	†	56

(d) **Statement in Support of Meridian Broadcasting Company Counterproposals.** Meridian Broadcasting Company urged that the City of Meridian is the second largest city in the State of Mississippi; that the size, population and economic importance of Meridian warrant the assignment of a second VHF channel to that community; that the population of the city is largely rural and that television service must be supplied to such rural areas by the operation of VHF stations rather than by the operation of UHF stations. It was urged that the operation of Channel 4 in Meridian, Mississippi, would provide service to a substantial area and population. The three alternative counterproposals would each result in a 185-mile co-channel separation on Channel 4 between Meridian and New Orleans in Zone III.

(e) **Oppositions and Conflicting Counterproposals to Meridian Counterproposals.** In addition to the two parties mentioned above oppositions and conflicting counterproposals were filed by the following parties: Deep South Broadcasting Co., Montgomery, Ala., and Spartan Broadcasting Co., Spartanburg, S. C.

(f) **The Meridian Educational Reservation.** Meridian Municipal Junior College and the JCET supported the reservation of Channel 36 in Meridian for non-commercial educational use. No party objected to the reservation.

Conclusions: Educational Reservation

802. On the basis of the record the reservation of Channel 36 in Meridian, for non-commercial educational use is finalized.

Conclusions: Request for Additional VHF Assignment in Meridian

803. The counterproposals seeking the additional assignment of a VHF channel to Meridian would result in a 185 mile co-channel assignment separation on Channel 4 between Meridian and New Orleans in Zone III. Since the minimum separation of a co-channel station in Zone III is 220 miles this counterproposal must be denied. Accordingly, the counterproposal of Meridian Broadcasting Company is denied.

Final Assignments and Reservation

804. The following assignments and reservation are adopted:

City	VHF Channel No.	UHF Channel No.
Meridian	11	30, *36

BILOXI, STATE COLLEGE AND UNIVERSITY, MISSISSIPPI EDUCATIONAL RESERVATIONS

805. (a) **Proposed Reservations.** In the Third Notice the Commission proposed the following reservations for non-commercial educational use:

City	VHF Channel No.	UHF Channel No.
Biloxi		*44
State College	*2	
University		*20

(b) **Biloxi.** The JCET supported the reservation of Channel 44 at Biloxi for non-commercial educational use. No objections were filed to the reservation.

(c) **State College.** Mississippi State College and the JCET supported the reservation of VHF Channel 2 for a non-commercial educational television station at State College, Mississippi. It was pointed out that Mississippi State College is the land grant institution of the State and as such it anticipated using television to bring programs of interest to the farm population of Mississippi. The College also anticipated that the television station would serve as an important training ground for students. Included with the Joint Committee's filing was a sworn statement of the Mississippi State College for Women supporting the reservation.[160] No objection was filed to the proposed reservation.

(d) **University.** The University of Mississippi and the Board of Trustees for State Institutions of Higher Learning supported the reservation of UHF Channel 20 in University for non-commercial educational use. No objection was filed to the proposed reservation.

CONCLUSIONS

806. On the basis of the record the following reservations for non-commercial educational use are finalized:

City	VHF Channel No.	UHF Channel No.
Biloxi		*44
State College	*2	
University		*20

FORT LAUDERDALE, GAINESVILLE, JACKSONVILLE, ORLANDO, PANAMA CITY, WEST PALM BEACH, FLORIDA

807. **Proposed Assignments and Reservations.** In the Third Notice the Commission proposed the following assignments and reservations:

City	VHF Channel No.	UHF Channel No.
Fort Lauderdale		17, 23
Gainesville	*5	20
Jacksonville	4, *7, 12	30, 36
Orlando	6, 9	18, *24
Panama City	7	*30, 36
West Palm Beach	5, 12	*15, 21

Fort Lauderdale

808. (a) **Census Data.** The City of Fort Lauderdale has a population of 36,000.

(b) **Counterproposal of Gore Publishing Company.** Gore Publishing Company requested the assignment of Channel 9 to Fort

[159] Tuscaloosa Broadcasting Company filed an alternate counterproposal requesting the additional assignment of Channel 8 to Tuscaloosa. Tuscaloosa Broadcasting Company made this alternative counterproposal contingent upon the second alternative counterproposal of WREC Broadcasting Service and WMPS, Inc., Memphis, Tennessee. Under the alternative counterproposal of Tuscaloosa Broadcasting Company it was requested that in addition to the changes of the proposed assignments in the Commission's Third Notice set forth in the second alternative of the Memphis proposal, Tuscaloosa Broadcasting Company would make five other changes in the Commission's proposed assignments. Elsewhere in this Report we have denied the second alternative counterproposal of the Memphis parties. Since the alternative counterproposal of Tuscaloosa Broadcasting Company was made expressly contingent upon the grant of that second alternative counterproposal of the Memphis parties the alternative counterproposal of the Tuscaloosa Broadcasting Company will not be discussed further.

[160] Voice of Dixie, Inc., Birmingham, Ala., Tuscaloosa Broadcasting Company, Tuscaloosa, Ala., Hoyt B. Wooten, d/b as WREC Broadcasting Service and WMPS, Inc., Memphis, Tenn., and Spartan Radiocasting Company, Spartanburg, S. C., proposed to delete VHF Channel 2 from State College, Miss., and substitute another VHF channel there as part of a plan to add another VHF channel to their respective cities. No such shift is required, however, since these counterproposals have been denied for the reasons stated elsewhere in this Report.

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Lauderdale by making the following changes in the assignments proposed in the Third Notice:

City	Third Notice		Proposal	
	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.
Fort Myers	11		12†	
Fort Lauderdale		17, 23	9†	17, 23
Miami	*2, 4, 7, 10		*2, 4, 7, 13†	*15, 21
West Palm Beach	5, 12	*15, 21	5, 11†	

(c) **Statement in Support of Gore Publishing Company Counterproposal.** Gore Publishing Company urged that Fort Lauderdale, with a population of 37,000 persons had increased by 100% since 1940; that during the tourist season the population of Fort Lauderdale exceeds 100,000; that of the 248 cities in the United States with a population between 25,000 to 50,000 Fort Lauderdale ranks 19th in total retail sales; that the assignments proposed by the Commission were inadequate to meet the needs of the Fort Lauderdale community; and that the assignment of a first VHF channel to that community would result in a fair, equitable and efficient distribution of the available channels.

(d) **Oppositions and Conflicting Counterproposals to Gore Publishing Company Counterproposal.** Oppositions and conflicting counterproposals to the counterproposal of Gore Publishing Company with filed by Miami Broadcasting Company, Isle of Dreams Broadcasting Corporation, the Fort Industry Company and WKAT, Inc.

(e) The Gore Publishing Company counterproposal would result in a co-channel separation of 183 miles on Channel 9 between Fort Lauderdale and Orlando in Zone III.

Gainesville

809. **The Educational Reservation.** The JCET supported the reservation of VHF Channel 5 in Gainesville for non-commercial educational use. No objection to the reservation was filed.

Jacksonville

810. (a) **Census Data.** The standard metropolitan area of Jacksonville has a population of 304,000. The City of Jacksonville has a population of 205,000.

(b) **Existing Stations.** Florida Broadcasting Company is licensed for the operation of WMBR-TV, Jacksonville on Channel 4.

(c) **Counterproposal of Jacksonville Broadcasting Corporation.** Jacksonville Broadcasting Corporation requested the additional assignment of Channel 10 to Jacksonville. No other changes in the assignments proposed by the Commission in the Third Notice were requested.

(d) **Statement in Support of Jacksonville Broadcasting Corporation Counterproposal.** Jacksonville Broadcasting Corporation urged that the nearest assignments on Channel 10 proposed by the Commission are at Tampa—St. Petersburg, and Albany; that the distance from Jacksonville to Albany and to Tampa is 171 miles, the distance to St. Petersburg is 186 miles. It was further stated that the nearest adjacent channel assignments would be to Orlando on Channel 9 at a distance of 124 miles from Jacksonville. It was stated that the operation of Channel 10 in Jacksonville would cause interference within the Grade B service of the Albany station and to the operation of Channel 10 in Tampa. It was urged, however, that two or more services would be provided from the operation of other stations to the area receiving interference.

(e) **Opposition to the Jacksonville Broadcasting Corporation Counterproposal.** The Tribune Company, Tampa, Florida, opposed the counterproposal of Jacksonville Broadcasting Corporation urging that the operation of Channel 10 in Jacksonville might preclude the use of Channel 10 in Tampa.

(f) **Counterproposal of City of Jacksonville, Jacksonville, Florida.** The City of Jacksonville requested the additional assignment of VHF Channel 2 to Jacksonville by making the following changes in the assignments proposed in the Third Notice:

City	Third Notice		Proposal	
	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.
Daytona Beach, Fla.	2		11†	
Jacksonville, Fla.	4, *7, 12	30, 36	2†, 4, *7, 12	30, 36
Tallahassee, Fla.	2, *11	24	6†, *11	24
Thomasville, Ga.	6	27	3†	27

(g) **Statement in Support of City of Jacksonville Counterproposal.** The City of Jacksonville urged that a grant of its counterproposal would not decrease the number of channels proposed by the Commission in the Third Notice and that the economic importance of the City of Jacksonville warranted the assignment of a third VHF channel.

(h) The City of Jacksonville counterproposal would result in the following co-channel assignments in Zone III.

Channel	Cities	Distance
3	Thomasville, Ga.-Pensacola	195
11	Daytona Beach-Tallahassee	215

(i) **Opposition and Conflicting Counterproposal to the Counterproposal of City of Jacksonville.** Opposition to the counterproposal of the City of Jacksonville was filed by Central Florida Broadcasting Company since the counterproposal was mutually exclusive with its counterproposal to assign VHF Channel 2 to Orlando, Florida.

(j) **The Jacksonville Educational Reservation.** The Duval County Board of Public Instruction and the JCET supported the reservation of Channel 7 in Jacksonville for non-commercial educational purposes. The Board stated that the educational needs of the county warranted the reservation of a channel; and that although the Board has no present plans to construct a television station it is proposed to conduct a survey to determine whether, alone or in cooperation with other educational institutions, it could construct or use a television station.

(k) **Opposition to the Jacksonville Reservation.** Jacksonville Broadcasting Corporation opposed the reservation of VHF Channel 7 for educational purposes, and requested that it be made available for commercial use. It contended that the Commission is without authority to reserve any channels for non-commercial educational stations;[161] that the reservation of VHF Channel 7 at Jacksonville is arbitrary and capricious as no showing was made in this proceeding of any need or interest in the use of any channel in Jacksonville; that the Jacksonville Junior College is the only educational institution in the area which possibly could use the channel and it has as yet shown no interest in owning and operating a television station.

Orlando

811. (a) **Census Data.** The standard metropolitan area of Orlando has a population of 115,000. The City of Orlando has a population of 52,000.

(b) **Counterproposal of Central Florida Broadcasting Company.** Central Florida Broadcasting Company requested the assignment of VHF Channel 2 to Orlando, Florida by making the following changes in the assignments proposed in the Third Notice:

City	Third Notice		Proposal	
	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.
Daytona Beach, Fla.	2		11†	
Orlando, Fla.	6, 9	18, *24	2†, 6, 9	18†, †, *24

(c) **Statement in Support of Central Florida Broadcasting Counterproposal.** It was urged that the counterproposal would result in providing Orlando with an additional VHF channel and Daytona Beach with a second channel.

(d) The Central Florida counterproposal would result in the following co-channel assignments in Zone III.

Channel	Cities	Distance
11	Daytona Beach-Tallahassee	215
11	Daytona Beach-Fort Meyers	184
2	Orlando-Miami	204

(e) **Oppositions and Conflicting Counterproposals.** Oppositions and conflicting counterproposals to the counterproposal of Central Florida Broadcasting Company were filed by the following parties: WKAT, Inc., Miami, Florida; the New Journal Corporation, Daytona Beach, Florida; the Isle of Dreams Broadcasting Corporation, Miami, Florida, the City of Jacksonville, Jacksonville, Florida.

(f) **The Orlando Educational Reservation:** John B. Stetson University, Leland, Florida, and the JCET supported the reservation of UHF Channel 24 in Orlando, for non-commercial educational use. The University stated that it is equipped to train students in the preparation and presentation of educational and religious television programs and that it expects to use television as an instrument of education. No opposition was filed to the proposed reservation.

Panama City

812. **The Educational Reservation.** The JCET supported the reservation of UHF Channel 30 in Panama City for non-commercial education use. No objection to the reservation was filed.

West Palm Beach

813. **The Educational Reservation.** The Board of Public Instruction of Palm Beach County supported the reservation of UHF Channel 15 in West Palm Beach for non-commercial educational use. No objection to the reservation was filed.

Conclusions: Educational Reservations in Gainesville, Panama City, West Palm Beach and Orlando

814. On the basis of the record the reservation of VHF Channel 5 in Gainesville and UHF Channels 30 in Panama City, 15 in West Palm Beach and 24 in Orlando are finalized.

Conclusions: Educational Reservation in Jacksonville, Florida

815. Educational institutions in Jacksonville supported the reservation of VHF Channel 7 for non-commercial educational use. The Jacksonville Broadcasting Corporation opposed the reservation. We are of the view that the educational reservation in Jacksonville should be maintained. In the Third Notice we stated that a VHF channel would be reserved in all communities with three or more VHF channels where all such VHF assignments were not in operation. In view of the evidence adduced by educational institutions in Jacksonville on behalf of the reservation of Channel 7, we are of the view that no basis has been established in this record for a deviation from the policy announced in the Third Notice. Accordingly, the counterproposal of Jacksonville Broadcasting Corporation, in so far as it requested the deletion of the reservation of Channel 7 for non-commercial educational use, is denied.

Conclusions: Requests for Additional VHF Assignments

816. The counterproposals seeking the additional assignment of a VHF channel to Fort Lauderdale, Jacksonville and Orlando would result in the following co-channel assignment separations below 220 miles in Zone III:

Counterproposals	Channel	Cities	Separation
Gore Publishing Co.	9	Fort Lauderdale-Orlando	183
Jacksonville B/cng. Co.	10	Jacksonville-Albany	171
City of Jacksonville	3	Thomasville, Ga.-Pensacola	195
City of Jacksonville	11	Daytona Beach-Tallahassee	215
Central Florida B/cng. Co.	2	Orlando-Miami	184
Central Florida B/cng. Co.	11	Daytona Beach-Tallahassee	215
Central Florida B/cng. Co.	11	Daytona Beach-Fort Myers	184

[161] The contention that the Commission is without authority to reserve channels for non-commercial educational use was disposed of in the Commission's decision of July 12, 1951.

817. Since each of the counterproposals would result in one or more co-channel assignment separations below the minimum they must be denied. Accordingly, the counterproposals of Gore Publishing Company, Jacksonville Broadcasting Company, City of Jacksonville and Central Florida Broadcasting Company are denied.

Final Assignments and Reservation

818. The following assignments and reservations are adopted:

City	VHF Channel No.	UHF Channel No.
Fort Lauderdale		17, 23
Gainesville	*5	20
Jacksonville	4, *7, 12	30, 36
Orlando	6, 9	18, *24
Panama City	7	*30, 36
West Palm Beach	5, 12	*15, 21

MIAMI AND TAMPA—ST. PETERSBURG, FLORIDA VALDOSTA, GEORGIA

819. **Proposed Assignments and Reservations.** In the Third Notice the Commission proposed the following assignments and reservations:

City	VHF Channel No.
Miami, Fla.	*2, 4, 7, 10
Tampa-St. Petersburg, Fla.	*3, 8, 10, 13
Valdosta, Ga.	8

820. The foregoing proposed assignments would result in the following co-channel separations below 220 miles in Zone III:

Channel	Cities	Separation
8	Tampa-St. Petersburg-Valdosta	203
10	Tampa-St. Petersburg-Miami	204

Miami

821. (a) **Census Data.** The standard metropolitan area of Miami has a population of 495,000. The City of Miami has a population of 249,000.

(b) **Existing Stations.** Southern Radio and Television Equipment Company has a construction permit for WTVJ: Miami, on Channel 4, and is operating under special authority.

(c) **Counterproposals of Miami Broadcasting Company, Isle of Dreams Broadcasting Corp., The Fort Industry Company and WKAT, Inc.** Miami Broadcasting Company, Isle of Dreams Broadcasting Corp., The Fort Industry Company and WKAT, Inc., requested the additional assignment of one or more VHF and UHF channels to the City of Miami. Isle of Dreams Broadcasting Corp., and Fort Industry Company submitted three alternative plans to accomplish the additional assignments requested. Following are the plans submitted by the Miami parties: →

NOTE: A blank space opposite a city indicates that under the plan no change in channel assignments were requested for that city.

(d) **Statements in Support of Miami Broadcasting Co., Isle of Dreams Broadcasting Corp., The Fort Industry and WKAT, Inc. Counterproposals.** In support of the foregoing Miami counterproposals it was urged that a fair, efficient and equitable distribution of facilities among the several states and communities warranted the assignment of additional channels to the Miami area; that the City of Miami is the second largest city in Florida and the Miami metropolitan area has the greatest population of any metropolitan area in the State of Florida; that Miami is a well known resort center whose population is swelled by tourists and vacationists each year and that Miami is one of the country's playgrounds, a center of entertainment, talent, showmanship and events of special interest; that Miami is located in the Southern Peninsula and where few outside television services would be available; that Miami supports 11 AM and 6 FM stations; that the economic resources of the area are adequate to support the operation of additional television stations; that there are presently pending 5 applications for commercial television assignments for the City of Miami; and that the assignments proposed by the Commission for Miami, of 4 VHF channels are inadequate to meet the needs of the Miami area in view of the proposed reservation of one VHF channel for educational purposes.

(e) The Miami counterproposals would result in the following co-channel separations below 220 miles in Zone III:

ISLE OF DREAMS

Plan 1

Channel 9	
Miami-Orlando	204 miles
Channel 13	
Miami-Tampa	205 miles

Plan 2

Channel 9	
Miami-Orlando	204 miles
Channel 13	
Miami-Tampa	205 miles

Plan 3

Channel 9	
Miami-Orlando	204 miles
Channel 13	
Miami-Tampa	205 miles

FORT INDUSTRY CO.

Plan 1

Channel 9	
Miami-Orlando	204 miles
Channel 13	
Miami-Tampa	205 miles

Plan 2

Channel 9	
Miami-Orlando	204 miles
Channel 13	
Miami-Tampa	205 miles

Plan 3

Channel 9	
Miami-Orlando	204 miles
Channel 13	
Miami-Tampa	205 miles

MIAMI BROADCASTING CO.

Channel 9	
Miami-Orlando	204 miles
Channel 13	
Miami-Tampa	205 miles

WKAT, INC.

Channel 11	
Daytona Beach-West Palm Beach	182 miles
Channel 9	
Miami-Tampa	205 miles
Channel 13	
Miami-Tampa	205 miles
Channel 8	
Orlando-Valdosta	198 miles[162]
Channel 2	
Tampa-Miami	205 miles
Channel 4	
Tampa-Miami	205 miles

(f) **Oppositions and Conflicting Counterproposals to the Miami Counterproposals.** Gore Publishing Company, Fort Lauderdale, Florida, filed a mutually exclusive counterproposal seeking the additional assignment of VHF Channel 9 to Fort Lauderdale, and opposed the mutually exclusive counterproposal of the Miami parties.

(g) **The Miami Educational Reservation.** The Board of Public Instruction of Dade County, Florida, and University of Miami supported the reservation of VHF Channel 2 in Miami for non-commercial educational use. The Board of Public Instruction of Dade County, Florida, submitted statements in support of the reservation from numerous organizations and individuals, including the Mayor of the City of Miami, The Mayor of Miami Shores Village, The Greater Miami Council of Churches, certain members of the Board of County Commissioners, Miami, Florida, State Congressman Dante B. Fascell and the Classroom Teachers' Association of Dade County. The Board of Public Instruction stated that non-commercial educational broadcasting facilities were necessary to meet the educational needs of the Dade County area and that the Superintendent of Schools was directed to include in the education budget for the scholastic year 1951-1952 sufficient funds to finance the television station. The Board asserted that Dade County has an annual budget of approximately $30 million and is therefore able to construct and operate a television station. The Board presently operates educational radio Station WTHS-FM, and the Board asserted that it spent approximately $60,000 in the operation of that station to provide a modern educational radio service to Dade County. The Board also stated that it proposes to utilize the television station to present a wide range of educational programs to serve the schools and the general public, in cooperation with other educational institutions.

(h) **Opposition to the Miami Reservation.** The Fort Industry Company[163] opposed the reservation of VHF Channel 2 in Miami and proposed the reservation of both UHF Channels 29 and 35 for non-commercial educational use in lieu of VHF Channel 2. The Fort Industry Company stated the reservation would tend to impair freedom of competition by limiting the number of commercial stations with substantially equal facilities, and that the reservation would prolong the length of time the public would have to wait for the inception of a second commercial service since the scarcity of commercial channels thus created might well result in protracted hearings. The Fort Industry Company claimed the most that would be expected of an edu-

[162] We have below deleted the assignment of Channel 8 at Valdosta.

	Third Notice		Miami Broadcasting Co. Proposal	
City	VHF Channel No	UHF Channel No.	VHF Channel No.	UHF Channel No.
Fort Myers, Fla.	11		12†	
Miami, Fla.	*2, 4, 7, 10		*2, 4, 9†, 11†, 13†	27†, 33†
West Palm Beach, Fla.	5, 12	*15, 21	5, 7†	*15, 21

	Third Notice		WKAT, Inc. Proposal	
City	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.
Daytona Beach, Fla.	2		11†	
Fort Myers, Fla.	11		12†	
Melbourne, Fla.	†		10†	
Miami, Fla.	*2, 4, 7, 10		*2, 4†, 7, 9†, 13†	
Orlando, Fla.	6, 9	18, *24	3†, 8†	18, *24
Tampa-St. Petersburg, Fla.	*3, 8, 10, 13		2†, 4†, *6†, 9†, 13†	
West Palm Beach, Fla.	5, 12	*15, 21	5, 11†	*15, 21

	Isle of Dreams Alternative Proposals							
	Third Notice		Plan 1		Plan 2		Plan 3	
City	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.
Daytona Beach, Fla.	2						11†	
Fort Myers, Fla.	11		12†		12†		5†	
Jacksonville, Fla.	4, *7, 12	30, 36					4, *7, 13†	30, 36
Miami, Fla.	*2, 4, 7, 10		*2, 4, 9†, 11†, 13†		*2, 4, 7, 9†, 13†		*2, 4, 6†, 7, 9†	
Orlando, Fla.	6, 10	18, *24					2†, 9	18, *24
Tampa-St. Petersburg, Fla.	*3, 8, 10, 13						*3, 6†, 8, 10, 12†	
West Palm Beach, Fla.	5, 12	*15, 21	5, 7†	*15, 21	5, 11†	*15, 21	11†, 13†	*15, 21

	Fort Industry Alternative Proposals							
	Third Notice		Plan 1		Plan 2		Plan 3	
City	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.
Fort Myers, Fla.	11		12†				12†	
Fort Pierce		19			12†	19		31†
Miami, Fla.	*2, 4, 7, 10		2, 4, 7, 9†, 13†	*29†, *35†	2, 4, 7, 10, 13†	*29†, *35†	2, 4, 5†, 7, 9†, 11†, 13†	*29†, *35†
West Palm Beach, Fla.	5, 12	*15, 21	5, 11†	*15, 21	5, †	*15, 21, 27†	†, †	*15, 21, 27†, 33†

cational television station was a service designed primarily to train students in television techniques, supplemented by perhaps a few hours weekly of regular educational programs. The Fort Industry Company contended a commercial UHF station would be at a competitive disadvantage in the Miami market since a substantial number of VHF sets were in the hands of the public.[164]

Tampa—St. Petersburg

822. (a) **Census Data.** The Tampa-St. Petersburg standard metropolitan area has a population of 409,000. The City of Tampa has a population of 125,000. The City of St. Petersburg has a population of 97,000.

(b) **Tampa-St. Petersburg Educational Reservation.** The Public School System of Hillsborough County, The Pinellas County School System, Pinnellas Broadcasting Co., and the JCET supported the reservation of VHF Channel 3 in Tampa-St. Petersburg for non-commercial educational use. The Public School System stated it would act in cooperation with the School System of Pinellas County and possibly other educational institutions to bring non-commercial educational television to the area; that several departments of the School system now develop and produce radio programs and that an educational television station would render a type of service which could not be expected from commercial television. The Pinellas County School System stated that the reservation was indispensable to the establishment of an educational television station. Pinellas Broadcasting Company stated that educational television was a new field, and that it would require time for the formulation of practical and detailed plans for the utilization of non-commercial educational purposes in St. Petersburg-Tampa area; that such an educational station could be financed by the Boards of Education of five surrounding counties, the University of Tampa, the General Extension Division of the University of Florida and the St. Petersburg Junior College.

(c) **Opposition to the Tampa-St. Petersburg Reservation.** The Tampa Times Company and The Tribune Company opposed the reservation of VHF Channel 3 in Tampa-St. Petersburg and proposed that it be made available for commercial use. The Tampa Times stated there was a public need for the commercial use of Channel 3 as evidenced by the filing of five applications for television stations in the Tampa-St. Petersburg market; that there was a definite probability that educational organizations would not apply for a non-commercial educational television station because of a lack of funds; and that a channel in the 782-890 Mc. band could be assigned for non-commercial educational purposes if and when a need should arise. The Tribune Company opposed the reservation of non-commercial educational channels on the grounds that it was illegal under Sections 307, 309 and 326 of the Communications Act, and on the further ground that reservation was unwise.[165]

Valdosta, Georgia

823. **Census Data.** The City of Valdosta has a population of 20,000.

Conclusions: Deletion of Proposed Assignments

824. In the Third Notice the Commission proposed the assignment of Channel 10 to Tampa-St. Petersburg and to Miami at a separation of 204 miles, and the assignment of Channel 8 to Tampa-St. Petersburg and to Valdosta at a separation of 203 miles. Since these separations in Zone III are below the minimum for this area we are required to delete one assignment of Channel 10 and one assignment of Channel 8 to comply with the requisite separations.

825. With respect to Channel 10 we are presented with a choice of deleting that channel from Tampa-St. Petersburg or from Miami. In the Third Notice the Commission proposed the assignment of 4 VHF channels to Miami and 4 VHF channels to Tampa-St. Petersburg. In both communities one VHF channel was proposed to be reserved for non-commercial educational use. The City of Miami has a population of 247,000 and the metropolitan area has a population of 495,000. The City of Tampa has a population of 125,000, the City of St. Petersburg has a population of 97,000 and the metropolitan area has a population of 409,000. It is our view based on the record in this proceeding and relative size of these communities that the deletion of Channel 10 from Tampa-St. Petersburg and the assignment of that channel to Miami is warranted. In replacement for Channel 10 in Tampa-St. Petersburg we are assigning Channel 30 to that community.

826. With respect to Channel 8 we are presented a choice of deleting that channel from Tampa-St. Petersburgh or from Valdosta. The City of Valdosta has a population of about 20,000. In view of the great disparity in the size in these communities we believe the deletion of Channel 8 from Valdosta and the assignment of that channel to Tampa-St. Petersburg is warranted. In replacement for Channel 8 in Valdosta we are assigning UHF Channel 37 to that community.

Conclusions: Additional VHF Assignment in Miami

827. As indicated above each of the counterproposals submitted by the Miami parties for the additional assignment of one or more VHF channels to that community would result in assignment separations below the minimum of 220 miles in Zone III. Accordingly, the counterproposals of Isle of Dreams, Fort Industry, Miami Broadcasting Company and WKAT, Inc., are denied in so far as these counterproposals request the additional assignment of one or more VHF channels to Miami.

Conclusions: Miami and Tampa-St. Petersburg Educational Reservations

828. Educational institutions in Miami supported the reservation of VHF Channel 2 and educational institutions in Tampa-St. Petersburg supported the reservation of VHF Channel 3 for non-commercial educational use in their respective communities. The Fort Industry in Miami, The Tampa Times Company and the Tribune Company in Tampa-St. Petersburg opposed the reservations in their communities and requested the substitution of UHF channels for educational use.

829. We are of the view that the educational reservation in Miami and Tampa-St. Petersburg should not be shifted to the UHF. In the Third Notice we stated that a VHF channel would be reserved in all communities with three or more VHF channels where all such VHF assignments were not in operation. In view of the evidence adduced by educational institutions in Miami and Tampa-St. Petersburg on behalf of the reservation of the VHF channel we are of the view that no basis has been established in this record for a deviation from the policy announced in the Third Notice. Accordingly, the counterproposal of Fort Industry, The Tampa Times Company and The Tribune Company in so far as they requested the substitution of UHF channels for the VHF channels reserved for non-commercial educational use in Miami and Tampa-St. Petersburg are denied.

	Third Notice		Proposal	
City	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.
Baton Rouge, La.	10	28, *34, 40	2†, 10	28, *34, 40
New Orleans, La.	*2, 4, 6, 7	20, 26, 32	4, 6, 7, *9†	20, 26, 32
Hattiesburg, Miss.	9	17	11†	17
Meridian, Miss.	11	30, *36	9†	30, *36

Conclusions: Additional UHF Assignments in Miami

830. Miami Broadcasting Company requested the additional assignment of UHF Channels 27 and 33 to Miami. It is our view that the record supports the assignment of these channels to Miami. Accordingly, a counterproposal of Miami Broadcasting Company is granted in so far as it requests the additional assignments of UHF Channels 27 and 33 to Miami.

Final Assignments and Reservations

831. The following assignments and reservations are adopted:

City	VHF Channel No.	UHF Channel No.
Tampa-St. Petersburg, Fla.	*3, 8, 13	38
Miami, Fla.	*2, 4, 7, 10	27, 33
Valdosta, Ga.		37

BATON ROUGE, HOUMA, LAKE CHARLES, NEW ORLEANS, AND SHREVEPORT, LOUISIANA

832. (a) **Proposed Assignments and Reservations:** In the Third Notice the Commission proposed the following assignments and reservations:

City	VHF Channel No.	UHF Channel No.
Baton Rouge	10	28, *34, 40
Houma		30
Lake Charles	7	*19, 25
New Orleans	*2, 4, 6, 7	20, 26, 32
Shreveport	3, 12	

The foregoing proposed assignments would result in the following co-channel assignment separation below 220 miles in Zone III:

Channel	Cities	Mileage
7	Lake Charles-New Orleans	189

(b) **Census Data.** The standard metropolitan area of Baton Rouge has a population of 158,000, and the City of Baton Rouge has a population of 126,000. The population of the City of Houma is 12,000. The standard metropolitan area of New Orleans has a population of 685,000 and the City of New Orleans has a population of 570,000. The City of Lake Charles has a population of 41,000. The standard metropolitan area of Shreveport has a population of 177,000 and the City of Shreveport has a population of 127,000.

(c) **Existing Station.** WDSU Broadcasting Corporation is licensed for the operation of Station WDSU-TV on Channel 6 in New Orleans.

Baton Rouge

833. (a) **Counterproposal of Baton Rouge Broadcasting Company, Inc.** Baton Rouge Broadcasting Company requested the additional assignment of VHF Channel 2 to Baton Rouge by making the following changes in the assignments proposed by the Commission in the Third Notice:

(b) **Statement in Support of Baton Rouge Counterproposal.** Baton Rouge Broadcasting Company urged that Baton Rouge is the third largest city and the Capital of the State of Louisiana; that the population of Baton Rouge had increased by 262% between 1940 and 1950; that the City of Shreveport with approximately the same population as Baton Rouge and the City of Alexandria with approximately one-fourth the population of Baton Rouge were each assigned two VHF channels. It was urged that the size and economic importance of Baton Rouge warrant the assignment of two VHF channels to that community. It was further urged that the assignment of Channel 2 would be in conformance with the Commission's standards for minimum separation of co-channel and adjacent channel stations. It was pointed out that under the counterproposal the closest resultant co-channel separation would be between New Orleans and Meridian, Mississippi on Channel 9 at a distance of 185 miles; and between Alexandria, Louisiana, and Hattiesburg, Mississippi, on Channel 11 at a distance of 187 miles.[166] It was asserted that the operation of Channel 2 in Baton Rouge would afford a total gain of VHF service to a substantial area and population. The counterproposal would in addition result in a co-channel assignment separation on Channel 9 between Meridian, Mississippi, and Dothan, Alabama, of 210 miles.

[163] The Fort Industry Company proposal that the Commission adopt a rule providing for a six-month review of steps taken by educational institutions to utilize th reserved channels has been considered in another portion of this Report.

[164] The Fort Industry Company filed a Motion to Strike those portions of the brief of The Board of Public Instruction which it is alleged introduce new evidentiary matter and raise new contentions in contravention of the Commission's Order of Hearing Procedure at such a time in the proceedings as to deny other interested parties an opportunity to reply. A response to this Motion was filed by the Board of Public Instruction of Dade County in which it contends that the material objected to is entirely appropriate for fair comment and argumentation in a legal brief. The Motion to Strike is GRANTED since the material objected to is clearly raised for the first time, not supported by sworn written testimony and not in accordance with Paragraphs 5(b) or 5(c) of the Commission's Order of Hearing Procedure.

In view of the action herein taken it is unnecessary to rule upon the alternative request of The Fort Industry Company for other appropriate relief.

[165] The Commission's decision of July 13, 1951, disposed of this contention.

[166] In view of the action taken elsewhere in this Report this assignment separation in violation of the minimum would be removed.

(c) **Conflicting Counterproposal to the Baton Rouge Broadcasting Company Counterproposal.** A conflicting counterproposal was filed by Loyola University of the South, New Orleans.

(d) **The Baton Rouge Educational Reservation:** Louisiana State University and Agricultural and Mechanical College at Baton Rouge, Louisiana, supported the reservation of Channel 34 at Baton Rouge for non-commercial educational use stating that advanced students in the College of Engineering and the Department of Physics will be available to assist in the technical aspects of television. The University stated that it is presently negotiating a one-year interim contract with local commercial television stations for the production of educational television programs pending the time it can put into operation a non-commercial educational television station. No objections were filed to the proposed reservation.

Houma

834. (a) **Counterproposal of Charles Wilbur Lamar, Jr.** Charles Wilbur Lamar, Jr., requested the additional assignment of VHF Channel 12 to Houma, without any other changes in the assignments proposed in the Third Notice.

(b) **Statement in Support of Lamar Counterproposal.** Lamar urged that the assignment of Channel 12 to Houma would comply with the Commission's minimum standards for co-channel and adjacent channel separation. It was pointed out that the nearest assignments on Channel 12 proposed by the Commission are at Jackson, Mississippi, and Shreveport, Louisiana, which are 190 and 270 miles, respectively, from Houma. Adjacent channel assignments proposed by the Commission which are nearest to Houma are at Biloxi, Mississippi, and Alexandria, Louisiana, at distances of 122 and 165 miles, respectively, from Houma. It was urged that the operation of Channel 12 in Houma would render service to a substantial area and population.

(c) **Conflicting Counterproposal to Charles W. Lamar, Jr. Counterproposal.** A conflicting counterproposal was filed by Loyola University of the South, New Orleans.

New Orleans

835. (a) **Counterproposal of Loyola University of the South.** Loyola University requested the additional assignment of VHF Channel 11 to New Orleans, without any other changes in the assignments proposed in the Third Notice.

(b) **Statement in Support of Loyola University Counterproposal.** Loyola University urged that VHF Channel 11 could be assigned to New Orleans without reducing the number of channels proposed by the Commission for assignments to any other city, or without changing the assignments proposed by the Commission for any other city. It was urged that the UHF assignments proposed by the Commission for New Orleans were inadequate to serve the needs of that area since a considerable period of time would elapse before converters or new receivers capable of utilizing ultra high frequency signals could be distributed in the area. It was urged that this circumstance would prolong for an indefinite period the existing television monopoly in the New Orleans area.

(c) The Loyola counterproposal would result in the following co-channel separations in Zone III:

Channel	Cities	Mileage
11	New Orleans-Alexandria [167]	170
11	New Orleans-Meridian, Miss.	185

(d) **Oppositions and Conflicting Counterproposals to Loyola University Counterproposal.** Oppositions and conflicting counterproposals were filed by the following parties: Charles W. Lamar, Jr., Houma; Baton Rouge Broadcasting Company, Baton Rouge; The Houston Post Company, Houston; and Deep South Broadcasting Company, Montgomery.

(e) **The New Orleans Educational Reservation.** Tulane University supported the reservation of Channel 2 at New Orleans for non-commercial educational use, stating that it hoped the Commission would maintain the reservation until such time as the educational groups in the area could complete their studies on educational television.

(f) **Opposition of Loyola University to New Orleans Educational Reservation.** Loyola University contended that the Commission's proposed reservation of VHF Channel 2 at New Oreans for non-commercial educational use, and the attendant withdrawal of that channel from use for general broadcasting purposes, was beyond the power and discretion of the Commission. This contention that the Commission is without legal power to reserve channels in the Table of Assignments for use by non-commercial educational stations has been disposed of in the Commission's Opinion of July 12, 1951.

Lake Charles

836. (a) **Support of Proposed Assignments.** Calcasieu Broadcasting Company filed a sworn statement supporting the assignments proposed by the Commission for Lake Charles. It was stated that the assignment of a total of 3 channels to Lake Charles, with one channel reserved for educational use, appears to be an equitable assignment of the available channels to that city.

(b) **Educational Reservation.** The JCET supported the reservation of Channel 19 at Lake Charles for non-commercial educational use. Various other civic and educational leaders of Lake Charles also supported the reservation. No objections were made to the reservation.

Shreveport

837. **Support of Proposed Assignments.** International Broadcasting Corporation, Shreveport, Louisiana filed a statement supporting the assignments proposed by the Commission for Shreveport. No oppositions have been filed to the Commission's assignments for Shreveport.

Conclusions: Baton Rouge and New Orleans Educational Reservations.

838. On the basis of the record, the reservations of Channel 34 at Baton Rouge and Channel 2 at New Orleans, for non-commercial educational use are finalized.

Conclusions: Request for Additional VHF Assignments in Baton Rouge, Houma and New Orleans

839. The counterproposals seeking the additional assignment of a VHF channel in those cities would result in the following co-channel assignment separations below 220 miles in Zone III:

Proposal	Channel	Cities	Mileage
Baton Rouge Broadcasting Co.	9	Meridian, Miss.-Dothan, Ala.	210
	9	New Orleans-Meridian, Miss.	185
Charles W. Lamar	12	Houma-Jackson, Miss.	192
Loyola University	11	New Orleans-Meridian, Miss.	185

[167] In view of our action elsewhere in this Report this co-channel assignment separation would no longer exist.

Accordingly, the counterproposals of Baton Rouge Broadcasting Company, Charles W. Lamar, Jr., and Loyola University of the South are denied.

Conclusions: Deletion of Proposed Assignment

840. In the Third Notice the Commission proposed the assignment of Channel 7 to Lake Charles and New Orleans at a separation of 189 miles. Since this separation is below the minimum of 220 miles for Zone III we are required to delete one assignment of Channel 7 to comply with the requisite minimum separation.

841. The City of Lake Charles has a population of 41,000 and the City of New Orleans has a population of 570,000. In the Third Notice only 1 VHF Channel was proposed for Lake Charles while 4 VHF channels were proposed for New Orleans. We believe on the basis of the record that the deletion of Channel 7 from New Orleans and the assignment of that channel to Lake Charles is warranted. In replacement of Channel 7 at New Orleans we are assigning UHF Channel 61.

Final Assignments and Reservations.

842. The following assignments and reservations are adopted:

City	VHF Channel No.	UHF Channel No.
Baton Rouge	10	28, *34, 40
Houma		30
Lake Charles	7	*19, 25
New Orleans	*2, 4, 6	20, 26, 32, 61
Shreveport	3, 12	

ALEXANDRIA AND LAFAYETTE, LOUISIANA, BILOXI, MISSISSIPPI

843. (a) **Proposed Assignments and Reservations:** In the Third Notice the Commission proposed the following assignments and reservations:

City	VHF Channel No.	UHF Channel No.
Alexandria, La.	11, 13	
Lafayette, La.	5	38
Biloxi, Miss.	13	*44, 50
Galveston, Texas	11	35, 41, *47
Houston, Texas	2, *8, 13	23, 29

(b) The foregoing proposed assignments would result in the following co-channel assignment separations below 200 miles in Zone III.

Channel	Cities	Mileage
11	Galveston-Alexandria	197
13	Houston-Alexandria	204
13	Alexandria-Biloxi	217

(c) **Census Data.** The City of Alexandria has a population of 35,000. The City of Lafayette has a population of 34,000, The City of Biloxi has a population of 37,000. The standard metropolitan area of Galveston has a population of 113,000 and the City of Galveston has a population of 67,000. The standard metropolitan area of Houston has a population of 807,000 and the City of Houston has a population of 596,000.

Conclusions: Deletion of Proposed VHF Assignments

844. In the Third Notice, the Commission proposed the assignments of Channel 13 to Alexandria and Houston at a separation of 204 miles and to Alexandria and Biloxi at a separation of 217 miles in Zone III. Since these separations in Zone III are below the minimum for the area we are required to delete one or two assignments on Channel 13 to comply with the requisite separation. The population of both Houston and Biloxi is greater than that of Alexandria. Two VHF channels were proposed for Alexandria, one for Biloxi and three for Houston. In order to remove the sub-standard separation on Channel 13 we are faced with the choice of deleting this channel from Alexandria or from both Houston and Biloxi. In view of the foregoing, we believe the deletion of Channel 13 from Alexandria is warranted. In replacement for Chanel 13 in Alexandria we are assigning UHF Channel 62.

845. Further the assignments proposed in the Third Notice would result in the assignment of Channel 11 to Alexandria and Galveston at a separation of 197 miles in Zone III. Since this separation is below the minimum for this area we are required to delete one assignment of Channel 11 to comply with the requisite separation. The population of Galveston is approximately twice that of Alexandria. In view of the relative size of these cities we believe the deletion of Channel 11 from Alexandria and the assignment of that channel to Galveston is warranted.

846. In view of the action taken above the City of Alexandria would be left with no VHF assignments. In the Third Notice Channels 5 and 38 were proposed to be assigned to Lafayette, a city of 34,000. Since we are required to delete the assignments proposed for Alexandria, that city with a somewhat larger population than Lafayette, would have no VHF channels assigned to it. In view of the comparative size of Lafayette and Alexandria, it is our view that the deletion of Channel 5 from Lafayette and the assignment of that channel to Alexandria is warranted. As a replacement for Channel 5 at Lafayette we are assigning UHF Channel 67.

Final Assignment[168]

847. The following assignments are adopted:

City	VHF Channel No.	UHF Channel No.
Alexandria, La.	5	62
Lafayette, La.		38, 67
Biloxi, Miss.	13	*44, 50

PROPOSED UHF ASSIGNMENTS IN AREA II BELOW THE MINIMUM CO-CHANNEL ASSIGNMENT SEPARATIONS

848 (a) In the Third Notice the Commission proposed the following LHF assignments which do not meet the minimum co-channel assignment separations:

City	UHF Channel No.
Kingston, N. C.	26
Bad Axe, Mich.	15
Clinton, Mo.	15
Muskogee, Okla.[169]	39
Pryor Creek, Okla.	64
Harriman, Tenn.	45
Marvville, Tenn.	42
Shelbyville, Tenn.	52

(b) The foregoing proposed assignments would result in the following co-channel assignment separations below 175 miles in Zone II:

Channel	Cities	Mileage
26	Kinston, N. C.-Winston Salem, N. C.	162
15	Bad Axe, Mich.-Manistee, Mich	168
39	Duncan, Okla.-Muskogee, Okla.	170
64	Pryor Creek. Okla.-Chickasha, Okla.	171

[168] The final assignments for Galveston and Houston appear elsewhere in this Report.

42	Springfield, Tenn.-Maryville, Tenn.	171	
52	Gainesville, Ga.-Shelbyville, Tenn.	172	
15	Clinton, Mo.-Claramore, Okla.	173	
45	Laurens, S. C.-Harriman, Tenn.	173	

Since the above co-channel assignment separations are below the minimum for Zone II we are faced with the necessity of changing 8 assignments in order to comply with the requisite separation. Accordingly, we have deleted the UHF assignments listed above and substituted other UHF assignments which meet the minimum separations in Zone II.

FINAL ASSIGNMENTS

849. The following assignments are adopted:

City	UHF Channel No.
Kinston, N. C.	45
Bad Axe, Mich.	46
Clinton, Mo.	49
Muskogee, Okla.	66
Pryor Creek, Okla.	54
Harriman, Tenn.	67
Maryville, Tenn.	51
Shelbyville, Tenn.	62

DENVER, BOULDER, CRAIG, COLORADO SPRINGS, PUEBLO, DURANGO, GRAND JUNCTION, AND MONTROSE, COLORADO; LARAMIE, WYOMING

850. **Proposed Assignments and Reservations.** In the Third Notice the Commission proposed the following assignments and reservations:

City	VHF Channel No.	UHF Channel No.
Denver	2, 4, *6, 7	20, 26
Boulder	*9	22
Craig		19
Colorado Springs	10, 12	*17, 23
Pueblo	3, 5, *8	28, 34
Durango		15
Grand Junction		21
Montrose		18
Laramie	*8	18

Denver

851. (a) **Census Data.** The standard metropolitan area of Denver has a population of 564,000 and the City of Denver has a population of 416,000.

(b) **Counterproposals of Senator Edwin C. Johnson.** Senator Johnson proposed that an additional VHF channel be assigned to Denver, by the adoption of one of the following three alternative proposals.[170]

	Third Notice		Counterproposals					
			Plan 1		Plan 2		Plan 3	
City	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.
Denver, Colo.	2, 4, *6, 7	20, 26	2, 4, 6, 7, 9†	20, *26	2, 4, 6, 7, 12†	20, *26	2, 4, 6, 7, 9†	20, *26
Boulder, Colo.	*9	22	†	*22	*9	22	*12†	22
Colorado Springs, Colo.	10, 12	*17, 23					11†, 13†	
Cheyenne, Wyo.	11, 13				10, †	*17, 23	3†, 5†	*17, 23
Rawlings, Wyo.	12						11†	
Alliance, Nebr.	12	21					13†	21

(c) **Statement in Support of Senator Johnson's Counterproposal.** Senator Johnson stated that Denver is the largest city in the Rocky Mountain area encompassing more than 9 states; that Denver is the hub of the rail, motor, air, banking, communications and commercial activities of the West; and the economic potential and marketing facilities of Denver are more than sufficient to support adequately five commercial VHF stations. It was also stated that priorities set forth in the Commission's Third Notice for the assignment of television channels should not control where extraordinary or peculiar factors require otherwise. It was claimed that as a consequence of having only three commercial VHF channels the people of Denver would be deprived of the programs of a number of networks and the adverse influence of monopoly would affect national and local advertisers who seek Denver markets. In this connection it was urged that no competitive nationwide network system could be effected without service to and through the City of Denver. In view of the foregoing it was claimed that the proposed assignments to Denver did not constitute a fair and equitable assignment of facilities.

(d) **First Alternative Counterproposal of Senator Johnson.** The first alternative counterproposal of Senator Johnson would delete Channel 9 from Boulder and assign that channel to Denver, Colorado and redesignate UHF Channel 22 in Boulder as reserved for non-commercial educational use. It was stated that Boulder, which is only a short distance from Denver, would be able to receive television service without difficulty from Denver. It was also urged that Boulder is within the retail trade area of Denver and that the people of Boulder look to Denver as the center of their business and cultural interests. It was submitted that the assignment of a VHF channel to Boulder, less than 26 miles away from Denver, is not justified since such a channel would not be operated in the foreseeable future on a non-commercial basis. It was claimed that the Commission could impose a condition upon the commercial user of this channel in Denver to reserve time on it for educational purposes by the University of Colorado. Finally, it was urged that the reassignment of Boulder's Channel 9 to Denver would not seriously affect, in any practical way, the priorities set forth in the Commission's Third Notice and that such reassignment could be done without causing interference to other proposed assignments in the Commission's plan.

(e) **Second Alternative Counterproposal of Senator Johnson.** The second alternative counterproposal of Senator Johnson would delete Channel 12 from Colorado Springs, and assign that channel to Denver. It was stated that the grant of this request would result in a much improved assignment plan without causing any interference with any co-channel or adjacent channel operation.

(f) **Third Alternative Counterproposal of Senator Johnson.** The third counterproposal would add a VHF channel to Denver by shifting assignments proposed by the Commission in the Third Notice for five other cities and without reducing the number of assignments proposed by the Commission for these cities. In support of the third alternative counterproposal it was urged that the Commission could maintain its present proposed plan and add an additional VHF channel to Denver without degrading the Commission's engineering principles and standards. It was also stated that the Commission had proposed the assignment of only ten channels to Colorado state, with three reserved for non-commercial education use; whereas other states, such as New Mexico, Arizona and Utah, each with less than half of Colorado's population were assigned, proportionately, a greater number of channels. New Mexico was assigned fifteen VHF channels with three reserved for non-commercial educational use; Arizona was assigned fourteen VHF channels with two reserved for non-commercial educational use; Utah was assigned nine VHF channels with one reserved for non-commercial educational use. Wyoming, which has one-quarter of Colorado's population, was assigned ten VHF stations with one reserved for non-commercial educational use. In addition, it was pointed out that such cities as Grand Junction, Montrose, Alamosa, Fort Collins, Greeley and Trinidad, all in Colorado, and other progressive Colorado cities, were not assigned a VHF channel.

(g) **Oppositions and Conflicting Counterproposals to Senator Johnson's Counterproposal (Plan 3).** Northwestern Broadcasting Company filed a counterproposal to assign VHF Channel 5 to Craig, which is in conflict with Senator Johnson's Plan 3. Northwestern Broadcasting Company stated that the conflict could be resolved by assigning VHF Channel 13 to Craig in lieu of VHF Channel 5. This would be accomplished by the substitution of VHF Channel 8 for VHF Channel 13 at Rock Springs, Wyoming. Western Slope Broadcasting Company filed a counterproposal to assign VHF Channel 3 to Grand Junction, which is in conflict with Senator Johnson's Plan 3. Western Slope Broadcasting Company stated that the conflict could be resolved by assigning VHF Channel 5 to Grand Junction in lieu of VHF Channel 3. Uncompahgre Broadcasting Company filed a counterproposal requesting the assignment of VHF Channel 11 to Montrose, which is in conflict with Senator Johnson's Plan 3. Uncompahgre Broadcasting Company stated that the conflict could be resolved by the assignment of either VHF Channel 8 or 9 or 10 to Montrose in lieu of VHF Channel 11. Warren M. Mallory filed a counterproposal requesting the assignment of either Channel 3 or VHF Channel 5 to Laramie, which is conflict with Senator Johnson's Plan 3. Warren M. Mallory stated that the conflict could be resolved by the assignment of one channel to Cheyenne in lieu of two channels as proposed.

(h) **The Denver Educational Reservation.** The Denver Public Schools (School District Number One, City and County of Denver), the University of Denver (Colorado Seminary), the Adult Education Council of Denver, the Denver Public Library, and the Colorado State Department of Education supported the reservation of VHF Channel 6 at Denver, Colorado for non-commercial educational use. The University of Colorado, Boulder, Colorado also requested the Commission to reserve channels in Denver for such use. It appears that an executive committee has been established in Denver, consisting of representatives of the University of Denver, the Board of Education of the City and County of Denver, the Public Library System of Denver and the Adult Educational Council of Denver. The task of the executive committee is to set up a program of specific study of Denver's educational needs and resources as they pertain to the reservation. In addition, an analysis of the problems of programming, costs, and audience interest has been undertaken by a faculty group of the University of Denver. The University of Denver stated it possessed resources and facilities which could be used in television broadcasting. In anticipation of the arrival of television to the Denver area, the University in 1948 employed a full-time television expert. University officials conferred in 1948-1949 with studio design engineers of the Radio Corporation of America to develop plans for a community television studio. A thorough study was made of equipment and program costs and the problems of programming. The University stated that although "the cost factors in that 1948-1949 study are no longer valid, the general conclusions that a co-operative educational television undertaking can be practicable in Denver remain unshaken . . ." The Denver Public Schools, as evidence of the financial responsibility of the school system for any educational program that it might undertake stated that their budget for 1950-1951 was $18,443,000. The Denver Public Schools said it believed that the schools had the staff and organization which would make a television program feasible, and that its possibilities are being thoroughly studied. Pending the results of such study they requested that a suitable channel for television be reserved for educational use in Denver. In accordance with this view, the Public Schools stated that they had embarked on a program of study of the uses of television in cooperation with other educational institutions and cultural organizations of Denver.

(i) **Opposition to the Denver Educational Reservation.** Senator Johnson opposed the reservation of a VHF channel in Denver for non-commercial educational use, and Senator Johnson's Plans 1, 2 and 3 would substitute the reservation of a UHF channel in Denver for the VHF channel. Senator Johnson stated: "Television is a powerful

[169] Channels 8 and *45 were also proposed for Muskogee.

[170] Each of the three alternative counterproposals of Senator Johnson included a request for the shift of the educational reservation in Denver from VHF Channel 6 to UHF Channel 26. This request will be considered separately. Senator Eugene D. Millikin also filed a comment urging additional assignments to Denver but submitted no sworn evidence in support of the comment.

and effective medium for the teacher. It is the finest educational tool of our time. However, television is far too valuable as a national resource and much too intricate and delicate a process to waste away through idleness, lack of funds and in experience. I want this medium to be available to the people of Colorado now. I am positive that neither the University of Denver nor any other educational group will be ready during the next ten years to apply for a license and state that they are 'fit, willing and able' to operate a television station." Senator Johnson also recommended that the Commission could and should impose a condition in all television licenses that a certain amount of time be made available for educational purposes in the public interest.

Boulder[171]

852. **The Education Reservation.** Boulder is the site of the University of Colorado and has been designated as "a primarily educational center." Boulder is approximately 26 miles from Denver. The University of Colorado and the Board of Regents supported the reservation of a television channel for Boulder. The Board of Regents stated the University would continue to make studies of the feasibility and the cost of educational television and educational television operations and the progress being made at other educational institutions. The University reported it would then make a determination within a reasonable period of time as to when the University of Colorado might construct a television facility. The University of Colorado stated that if educational television lived up to its potentialities, it would be educationally sound to invest the large sums required to operate and build the facilities. Otherwise, the University stated, it would be forced to limit its television services to producing programs for presentation on commercial stations. The Colorado State Department of Education also supported the reservation.

Craig

853. (a) **Census Data.** The population of Craig is 3,000.

(b) **Counterproposal of Northwestern Colorado Broadcasting Company.** Northwestern Colorado Broadcasting Company requested the assignment of VHF Channel 5 to Craig without any other changes in the assignment proposed in the Third Notice. In the alternative it was requested that VHF Channel 13 be assigned to Craig by the substitution of Channel 8 for Channel 13 at Rock Springs.

(c) **Statement in Support of Northwestern Colorado Broadcasting Company Counterproposal.** Northwestern Colorado Broadcasting Company stated that assignment of VHF Channel 5 or VHF Channel 13 to Craig would afford a first and second television service to an appreciable area; and, accordingly, a grant of the counterproposal would constitute an equitable assignment to the area.

(d) **Conflicting Counterproposal to Northwestern Colorado Broadcasting Company Counterproposal.** The third alternative counterproposal of Senator Edwin Johnson to assign Channel 5 to Cheyenne is in conflict with the Northwestern Colorado Broadcasting Company counterproposal to assign Channel 5 to Craig. The request of Northwestern Colorado Broadcasting Company to assign VHF Channel 5 to Craig and the request of Senator Johnson (Plan 3) to assign Channel 5 to Cheyenne would result in a co-channel separation of 152 miles in Zone II. The request of Northwestern Colorado Broadcasting Company to assign VHF Channel 5 to Craig and the request of Warren M. Mallory to assign Channel 5 in Laramie would result in a co-channel separation of 117 miles in Zone II. The alternative request of Northwestern Colorado Broadcasting Company to assign VHF Channel 13 to Craig requires the assignment of VHF Channel 8 to Rock Springs and would result in a co-channel separation of 189 miles between Rock Springs and Laramie on Channel 8 in Zone II. Senator Johnson's counterproposal (Plan 3) would assign VHF Channel 13 to Colorado Springs; and the assignment of VHF Channel 13 to Craig would result in a co-channel separation of 186 miles between Craig and Colorado Springs in Zone II.

Colorado Springs

854.(a) **Census Data.** The population of Colorado Springs is 45,000.

(b) **The Educational Reservation.** The JCET supported the reservation of Channel 17 in Colorado Springs for non-commercial educational use. Included in the statement of the JCET was a letter from the Colorado Springs Fine Arts Center stating that it supported the efforts of the JCET to obtain the reservation of television channels for the region. No opposition to this reservation was filed.

Pueblo

855. **The Educational Reservation.** The Pueblo Public Schools, District 60 and the Pueblo Junior College supported the reservation of Channel 8 in Pueblo for non-commercial educational use. Resolutions of the Board of Education of the Pueblo Public Schools and the Pueblo Junior College Committee requested this reservation, pending completion of studies of the problems of educational television broadcasting such as costs and areas of use. No opposition to this reservation was filed.

Durango

856. (a) **Census Data.** The population of Durango is 7,000.

(b) **Counterproposal of San Juan Broadcasting Co., Inc.** San Juan Broadcasting Company, Inc., requested the assignment of VHF Channel 6 to Durango. In support of the counterproposal it was urged that the assignment of a VHF channel to Durango would provide a first television service to an appreciable area.

Grand Junction

857. (a) **Census Data.** The population of Grand Junction is 15,000

(b) **Counterproposal of Western Slope Broadcasting Company.** Western Slope Broadcasting Company, Grand Junction, requested that VHF Channel 3 be assigned to Grand Junction without any changes in the assignments proposed in the Third Notice. Since the counterproposal of Western Slope Broadcasting Company conflicted with Senator Johnson's Plan 3, Western Slope Broadcasting Company suggested that the conflict could be resolved by the assignment of Channel 5 to Grand Junction in lieu of Channel 3.

(c) **Statement in Support of Western Slope Broadcasting Co. Counterproposal.** Western Slope stated that its proposal would supply a first and second television service to an appreciable area. In addition it was urged that the assignment of a VHF channel is justified because the economic resources and size of Grand Junction evidence the ability of that community to support a VHF television station.

Montrose

858. (a) **Census Data.** The population of Montnose is 5,000.

(b) **Counterproposal of Uncompahgre Broadcasting Co.** Uncompahgre Broadcasting Company requested the assignment of VHF Channel 11 to Montrose without any otrer changes in the assignments proposed in the Third Notice. Since the counterproposal of Uncompahgre conflicted with Senator Johnson's Plan 3, Uncompahgre suggested that the conflict could be resolved by the assignment of Channel 8 or 9 or 10 to Montrose.

(c) **Statement in Support of Uncompahgre Counterproposal.** Uncompahgre Broadcasting Company urged that the assignment of a VHF channel to Montrose would result in a first television service to an appreciable area.

Laramie

859. (a) **Census Data.** The population of Laramie is 16,000.

(b) **Counterproposal of Warren M. Mallory.** Warren M. Mallory, Laramie, requested that either VHF Channel 3 or VHF Channel 5 be assigned to Laramie in addition to the assignments proposed in the Commission's Third Notice.

(c) **Statement in Support of Mallory Counterproposal.** Mallory urged that commercial interests in Laramie could not establish a television station in the immediate future on UHF Channel 18 proposed for Laramie because no UHF transmitting equipment is presently available on the market, but that if a VHF channel were made available commercial interests in Laramie have expressed a willingness to establish immediately a commercial station which would not only provide commercially sponsored entertainment but would also provide time for educational programs sponsored by the University of Wyoming, located in Laramie. It was also urged that the isolation of Laramie due to mountainous geographical terrain would prevent that city from receiving service from stations located in such other communities as Cheyenne, Wyoming, and Denver, Colorado.

(d) **Conflicting Counterproposals to Mallory Counterproposal.** The counterproposal of Warren M. Mallory and the third alternative counterproposal of Senator Johnson are mutually exclusive. Mallory, however, suggested that the conflict between the two counterproposals could be resolved by the assignment of Channel 3 to Laramie and Channel 5 to Cheyenne or the assignment of Channel 5 to Laramie and the assignment of Channel 3 to Cheyenne. The counterproposal of Warren H. Mallory to assign Channel 5 to Laramie is mutually exclusive with the counterproposal of Northwestern Colorado Broadcasting Company to add that channel to Craig, Colorado.

(e) **The Educational Reservation.**[172] The University of Wyoming and its Board of Trustees supported the reservation of VHF Channel 8 at Laramie for use by a non-commercial educational station No oppositions to this proposec reservation were filed.

Conclusions: Denver Educational Reservation

860. We have in another portion of this Report considered the proposal of Senator Johnson that the Commission impose a condition on all television licensees that a certain amount of time be made available for educational purposes as an alternative to the establishment of reservations for non-commercial educational use. Accordingly, it will not be discussed further.

861. We believe on the basis of the record that the proposed educational reservation of Channel 6 in Denver should be finalized. The educational institutions in Denver have demonstrated on the record their interest in establishing a non-commercial educational television station. They have banded together to solve the problems connected with the establishment and operation of such a station; the University of Denver, in particular, has shown on the record a strong interest in bringing educational television to the Denver area; and the educational institutions established on the record that they are proceeding to develop plans for the early establishment of a non-commercial educational television station in Denver. On the basis of the record, and in view of the foregoing, the Commission finds it must deny the counterproposal of Senator Edwin Johnson insofar as it would substitute UHF Channel 26 for VHF Channel 6 as the reserved channel in Denver, Colorado. Accordingly, the reservation of VHF Channel 6 in Denver, Colorado for non-commercial educational television use is finalized.

Conclusions: The Boulder Educational Reservation

862. We find no adequate basis on the record for deleting the proposed reservation of Channel 9 for non-commercial educational use in Boulder. Boulder has been designated as a "primarily educational center" and the University of Colorado has established its interest in establishing a non-commercial educational station in Boulder. Under these circumstances we find no adequate basis for deviating from our policy of attempting to provide VHF educational reservations in "primarily educational centers". On the basis of the record and in view of the foregoing, the Commission finds that it must deny the counterproposal of Senator Edwin Johnson insofar as the reservation of UHF Channel 22 instead of VHF Channel 9 at Boulder, Colorado is concerned. In view of our grant of Senator Johnson's third plan, Channel 12 will be substituted at Boulder for Channel 9. Accordingly, the Commission is finalizing the reservation of Channel 12 in Boulder for use by a non-commercial educational station.

Conclusions: The Colorado Springs and Pueblo Educational Reservations

863. The Commission is of the opinion, on the basis of the record, that a reservation for non-commer-

[171] Plan 1 of Senator Johnson's counterproposal would reserve UHF Channel 22 in lieu of VHF Channel 9 in Boulder for non-commercial educational use.

[172] In its Comments of May 7, 1951 Warren M. Mallory requested the reservation of UHF Channel 18 in Laramie for non-commercial educational use in lieu of VHF Chanel 8. No sworn statement in support of this request was filed. Accordingly, it will not be considered further.

cial educational television is warranted in Colorado Springs and Pueblo. Accordingly, the reservation of UHF Channel 17 in Colorado Springs, and VHF Channel 8 in Pueblo, are finalized.

Conclusions: The Laramie Educational Reservation

864. On the basis of the record the reservation of Channel 8 in Laramie for non-commercial educational use is finalized.

Summary of Requests for Additional VHF Assignments

865. The remaining counterproposals consist of: (1) a proposal by Senator Johnson for the assignment of either VHF Channel 9 or 12 to Denver; (2) a proposal by Northwestern Colorado Broadcasting Company for the assignment of either VHF Channel 5 or 13 to Craig; (3) a proposal by the San Juan Broadcasting Company, Inc., for the assignment of VHF Channel 6 to Durango, Colorado; (4) a proposal of Western Slope Broadcasting for the assignment of VHF Channel 3 or 5 to Grand Junction, Colorado; (5) a proposal by the Uncompahgre Broadcasting Company for the assignment of either VHF Channel 8, 9, 10 or 11 to Montrose, Colorado; (6) a proposal by Warren M. Mallory for the assignment of either VHF Channel 3 or 5 to Laramie.

Conclusions: Additional VHF Assignments to Denver, Craig and Laramie

866. The first and second alternative counterproposals of Senator Johnson would add a 4th commercial VHF assignment or a total of 5 VHF assignments to Denver by deleting the only VHF assignment to Boulder and the second VHF assignment to Colorado Springs, respectively. We have above denied the first counterproposal in connection with Boulder educational reservation discussion. With respect to the second alternative counterproposal, we do not believe the record supports the basis for the deletion of the second VHF channel in Colorado Springs, a city of 45,000, in order to effect the assignment of a 4th commercial VHF channel (with a total of 5 VHF channels) to Denver. The third alternative counterproposal of Senator Johnson would result in the additional assignment of VHF Channel 9 to Denver without deleting a channel from any other community. This counterproposal is, however, mutually exclusive with the counterproposal seeking the assignments of VHF channels in Craig and Laramie. The Commission is of the opinion that a fifth VHF channel in Denver, one of the major cities of the United States and a city of 416,000, is to be preferred to the assignment of a first VHF channel to Craig, a city of 3,000 and a second VHF channel to Laramie, a city of 16,000. We believe that in view of the great disparity in size, population and importance between Denver and the Cities of Craig and Laramie that the assignment of an additional VHF channel to Denver is warranted. The Northwestern Colorado Broadcasting Company's counterproposal to resolve the conflict between Senator Johnson's and its proposal would result in a mileage separation of 189 miles between Rock Springs, Wyoming, and Laramie, Wyoming, and of 186 miles between Craig, and Colorado Springs, in Zone II. Since the minimum co-channel separation in Zone II is 190 miles the alternative counterproposal of Northwestern Colorado Broadcasting Company must be denied.

867. The counterproposal of Mallory to resolve the conflict between Senator Johnson's and his proposal would require the deletion of a VHF channel from Cheyenne. We do not believe the record warrants the deletion of one of the two VHF channels from Cheyenne, a city of 32,000, in order to provide a second VHF assignment for Laramie, a city of 16,000. Accordingly, the second alternative counterproposal of Senator Johnson, the counterproposal of Northwestern Colorado Broadcasting Co., and the counterproposal of Warren M. Mallory are denied and the third alternative counterproposal of Senator Johnson in so far as it requests the addition of a VHF channel to Denver is granted.

Conclusions: Additional VHF Assignment to Grand Junction, Durango and Montrose

868. It is the Commission's view that the counterproposals of Western Slope Broadcasting Company for a VHF channel in Grand Junction; San Juan Broadcasting Company, Inc., for a VHF channel in Durango and the Uncompahgre Broadcasting Company for a VHF channel in Montrose should be granted. The assignments are consistent with the Rules and standards adopted herein and will result in television service to areas and persons which would otherwise not receive VHF service. Accordingly, the counterproposals of Western Slope Broadcasting Company and San Juan Broadcasting Co., Inc., as modified and the counterproposal of Uncompahgre Broadcasting Company are granted.

Final Assignments and Reservations

869. The following assignments and reservations are adopted:

City	VHF Channel No.	UHF Channel No.
Boulder, Colo.	*12	22
Colorado Springs, Colo.	11, 13	*17, 23
Denver, Co'o.	2, 4, *6, 7, 9	20, 26
Durango, Co'o.	6	15
Grand Junction Colo.	5	21
Montrose, Colo.	10	18
Pueblo, Colo.	3, 5, *8	28, 34
Alliance, Nebr.	13	21
Cheyenne, Wyo.	3, 5	
Laramie, Wyo.	*8	18
Rawlins, Wyo.	11	
Craig, Colo.		19

WALLA WALLA, WASHINGTON

870. (a) **Proposed Assignments.** In the Third Notice the Commission proposed the assignment of VHF Channels 5 and 8 to Walla Walla.

(b) **Census Data.** The population of the City of Walla Walla is 24,000.

(c) **Counterproposal of Salt Lake Pipe Line Company.** Salt Lake Pipe Line Company requested that VHF Channel 5 not be assigned to Walla Walla.

(d) **Statement in Support of Salt Lake Pipe Line Company Counterproposal.** Salt Lake Pipe Line Company stated that it is the permittee of operational fixed stations in the Petroleum Radio Service at Pasco, Washington on 72.15 Mc, Adams, Oregon on 74.02 Mc, and Mt. Emily, Oregon on 75.74 Mc, 74.50 Mc, and 74.42 Mc, in the band 72-76 Mc; that these stations are a part of a communication system constructed at a cost of more than $400,000 for the operation and maintenance of its petroleum pipe line; that when construction permits were requested a check was made of possible interference to television channels based upon an earlier Notice in these proceedings which did not propose assignment of Channel 5 to Walla Walla; that equipment operating on other frequencies was used at locations where interference might occur to television but no interference was then expected in the vicinity of Walla Walla; that the above stations are located 37 miles, 25 miles, and 46 miles, respectively, from Walla Walla, and thus may be expected to cause interference to a television station operating on Channel 5 at Walla Walla where the channel is proposed to be assigned under the Third Notice; and that to redesign the communications system by changing frequency of the stations at Pasco, Adams, and Mt. Emily in order to eliminate television interference would require the erection of other stations at heavy expense.

(e) In its Report and Order released May 6, 1948, in Docket 8487 with respect to the sharing of television channels and assignments of frequencies to television and non-government fixed and mobile services the Commission stated:

Allocation of the Band 72-76 Megacycles

The band 72 to 76 megacycles, except for the guard band around the 75 Mc marker, is presently allocated to non-government fixed and mobile services. It is in between television Channel 4 (66 to 72 Mc) and Channel 5 (76 to 82 Mc) and hence is a source of potential adjacent channel interference to each channel. The evidence showed that at least so far as mobile operations are concerned, operation in this band is not feasible since destructive interference to television reception is inevitable. However, the evidence did show that some use can be made of these frequencies with no interference to television on the basis of careful engineering and the formulation of engineering and interference standards. The establishment and application of such standards appear to be capable of solution for the fixed service. They do not appear to be practical in the case of the land mobile service whose requirements are most acute in the same areas which require either television Channels 4 or 5, or both. Accordingly, the Commission has determined that the frequencies 72 to 76 megacycles should be assigned only to the fixed service on an engineered basis and on condition that no adjacent channel interference will result to the reception of television stations which may be authorized or provided for in the Commission's Rules. The Commission recognizes that this allocation does remove some of the flexibility in the television allocation table but this is restricted to television Channels 4 and 5 and not all the television channels, as would be the case if assignments were made for shared use of television channels on an engineered basis. Morever, if the band 72 to 76 megacycles is not to be used by the fixed service on an engineered basis, it would be difficult to assign any service therein. This would constitute a waste of frequencies.

(f) Pursuant to the above Report and Order, Part 2 of the Commission's Rules and Regulations—Rules Governing Frequency Allocations and Radio Treaty Matters; General Rules and Regulations—provides that:

> Operational fixed stations may be authorized to use frequencies in this band [72-76 Mc] in accordance with columns 10 and 11 of the table of frequency allocations, on the condition that harmful interference will not be caused to the reception of television stations on Channels 4 and 5.

(g) Part 11—Rules Governing Industrial Radio Services—provided in Section 11.303(a):

> Subject to the condition that no harmful interference will be caused to reception of television Channels Number 4 or 5, the following frequencies are available for assignment to fixed stations in the Petroleum Radio Service on a shared basis with other services: [72-76].

Conclusions

871. The Commission has given careful consideration to the possibility of substituting another VHF television channel at Walla Walla for Channel 5 but the assignments for Walla Walla are closely interrelated with the proposals for other cities in the Pacific Northwest area and with Canadian assignments. Such a substitution would deprive another city of a VHF television channel without an adequate VHF substitute and, therefore, does not appear to be feasible. In view of the foregoing and the fact that the authorizations of operational fixed stations in the 72-76 Mc band were expressly made on the basis of non-interference to television assignments, the counterproposal of Salt Lake Pipe Line Company is denied. Other pipe line companies have employed microwave frequencies for communications systems of the type which Salt Lake operates. Such frequencies possess characteristics suitable to the fixed operations and present no problem of interference to television. It is our opinion that the potentiality of interference to television in Walla Walla can best be avoided by Salt Lake Pipe Line Company changing its communications to microwave frequencies. Accordingly, the Salt Lake City Pipe Line Company will have to vacate the frequencies involved when a television station is prepared to commence operation on Channel 5 in Walla Walla.

Final Assignments

872. The assignments of VHF Channels 5 and 8 to Walla Walla are adopted.[173]

TACOMA AND OLYMPIA, WASHINGTON

873. (a) **Proposed Assignments.** In the Third Notice the Commission proposed the following assignments and reservation:

City	VHF Channel No.	UHF Channel No.
Tacoma, Wash.	11, 13	*56, 62
Olympia, Wash.		60

(b) **Census Data.** The metropolitan area of Tacoma has a population of 276,000. The City of Tacoma has a population of 144,000. The City of Olympia has a population of 16,000.

(c) **Counterproposal of Tom Olsen.** Tom Olsen requested the additional assignment of VHF Channel 11 to Olympia by the deletion of that channel from Tacoma.

(d) **Statement in Support of Tom Olsen Counterproposal.** Tom Olsen

[173] The assignment of UHF Channel 22 in Walla Walla and its reservation for non-commercial educational use is discussed elsewhere in this Report.

stated that the operation of Channel 11 in Olympia would not cause objectionable interference to any proposed assignment; that it would provide additional Grade A service and a second television station for Olympia; and that Tacoma would receive a total of 6 VHF and 7 UHF services of at least Grade A quality under the FCC allocation proposal: 4 from Tacoma, 2 from Bremerton, 6 from Seattle, and 1 from Olympia.

(e) **Opposition to Tom Olsen Counterproposal.** The Tribune Publishing Company, Tacoma, Washington, opposed the counterproposal of Tom Olsen to move VHF Channel 11 from Tacoma to Olympia.

(f) **The Tacoma Educational Reservation.** Tacoma Public Schools, Tacoma Vocational - Technical School, College of Puget Sound, and the State Superintendent of Public Instruction supported the reservation of Channel 56 at Tacoma. No objection was filed to the proposed reservation.

Conclusions: Tacoma Educational Reservation

874. On the basis of the record the reservation of Channel 56 at Tacoma is finalized.

Conclusions: Olympia and Tacoma

875. It is our view, on the basis of the record, that the deletion of Channel 11 from Tacoma to provide a VHF assignment to Olympia is not warranted. Tacoma has a population of 144,000, as compared to Olympia with a population of 16,000; and Tacoma is one of the largest cities in the State of Washington. Accordingly, the counterproposal of Tom Olsen is denied.

Final Assignments and Reservation

876. The following assignments and reservation are adopted:

City	VHF Channel No.	UHF Channel No.
Tacoma, Wash.	11, 13	*56, 62
Olympia, Wash.		60

BELLINGHAM, SEATTLE, LONGVIEW, WASHINGTON, AND ALBANY, OREGON

877. **Proposed Assignments.** In the Third Notice the Commission proposed the following assignments and reservation:

City	VHF Channel No.	UHF Channel No.
Bellingham		18, 24
Seattle	4, 5, 7, *9	20, 26
Longview		33
Albany		55

Bellingham

878. (a) **Census Data.** The City of Bellingham has a population of 34,000.

(b) **Counterproposal of KVOS, Inc.** KVOS, Inc., Bellingham, Washington, requested the additional assignment of VHF Channel 12 to Bellingham. The assignment of Channel 12 to Bellingham would be accomplished by the assignment of Channel 3 to Chilliwack, Canada, in lieu of Channel 12.

(c) **Statement in Support of KVOS, Inc., Counterproposal.** KVOS, Inc., stated that the assignment of Channel 12 to Bellingham would not deprive any city listed in the Third Notice of a VHF or a UHF channel; that the shift of Channel 12 from Chilliwack meets the mileage separation requirements; that a grant of the counterproposal would provide additional Grade A service; and that a VHF channel would provide a more dependable service to a considerable area than would a UHF service.

(d) The KVOS, Inc., counterproposal would result in an adjacent channel separation of 81 miles between Chilliwack on Channel 3 and Victoria, Canada, on Channel 2 and an adjacent channel separation of 105 miles between Chilliwack on Channel 3 and Seattle, Washington, on Channel 4.

(e) **Oppositions and Conflicting Counterproposals to KVOS, Inc. Counterproposal.** Oppositions and conflicting counterproposals were filed by Fisher's Blend Station, Inc., Seattle; Totem Broadcasters, Inc., Seattle; Twin Cities Broadcasting Corp., Longview, all of Washington; and Central Willamette Broadcasting Company, Albany, Oregon.

Seattle

879. (a) **Census Data.** The Seattle metropolitan area has a population of 733,000. The City of Seattle has a population of 468,000.

(b) **Counterproposal of Totem Broadcasters, Inc.** Totem Broadcasters, Inc., requested the additional assignment of VHF Channel 2 to Seattle,[174] by the assignment of Channel 3 to Victoria, Canada, in lieu of Channel 2.

(c) **Statement in Support of Totem Broadcasters, Inc. Counterproposal.** Totem Broadcasters, Inc., stated that Channel 2 at Seattle would comply with the standards, that the economic resources of Seattle were adequate to support an additional channel and that the assignment of 4 VHF commercial channels to Seattle would result in a healthy competitive situation.

(d) The Totem Broadcasters, Inc., counterproposal would create an adjacent channel separation of 75 miles between Victoria, Canada, on Channel 3 and Seattle on Channel 2.

(e) **Oppositions and Conflicting Counterproposal to Totem Broadcasters, Inc., Counterproposals.** Oppositions and conflicting counterproposals were filed by KVOS, Inc., Bellingham, Twin Cities Broadcasting Corp., Longview, both of Washington, and Central Willamette Broadcasting Co., Albany, Oregon. The Totem Broadcasters, Inc., counterproposal together with the counterproposal of KVOS, Inc., would create an 81 mile co-channel separation between Victoria and Chilliwack on Channel 3.

(f) **Counterproposal of Fisher's Blend Station, Inc.** Fisher's Blend Station, Inc., requested the additional assignment of VHF Channel 2 to Seattle in two alternative counterproposals. Plan 1 would add Channel 2 to Seattle by the assignment of Channel 3 to Victoria, Canada, in lieu of Channel 2.[175] Plan 2 would make the following changes in the assignments proposed in the Third Notice.

City	Third Notice		Proposed Changes (Plan 2)	
	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.
Seattle, Wash.	4, 5, 7, *9	20, 26	2†, 4, 5, 7, *9	20, 26
Victoria, B. C.	2	40, 46	12†	40, 46
Chilliwack, B. C.	12	42	3†	42

(g) **Statement in Support of Fisher's Blend Station, Inc. Counterproposal.** Fisher's Blend Station, Inc., stated that the assignment of VHF Channel 2 to Seattle would comply with the Standards, would provide a gain of Grade B interference-free service, that Seattle is the largest city in the Pacific Northwest located in the center of the most densely populated region in that area, that the population of Seattle had increased since 1940; that nearly one-third of the entire population of the State of Washington resides in the Seattle metropolitan area; and that the economic resources of the area were adequate to support the additional station requested.

(h) The Fisher's Blend Plan 1 would create an adjacent channel separation of 75 miles between Victoria, B. C., on Channel 3 and Seattle on Channel 2. Plan 2 would create an adjacent channel separation of 90 miles between Victoria, B. C., on Channel 12 and Tacoma, Washington, on Channels 11 and 13.

(i) **Opposition and Conflicting Counterproposals to Fisher's Blend Station, Inc., Counterproposal.** Oppositions and conflicting counterproposals were filed by KVOS, Inc., Bellingham, Washington; Twin Cities Broadcasting Corporation, Longview, Washington; and Central Willamette Broadcasting Company, Albany, Oregon. The Fisher's Blend Plans 1 and 2, together with the counterproposal of KVOS, Inc., would create, respectively, an 81 mile co-channel separation between Victoria and Chilliwack on Channel 3 and a 48 mile co-channel separation between Victoria and Bellingham on Channel 12.

(j) **The Seattle Educational Reservation.** Educational institutions in Seattle supported the reservation of VHF Channel 9 for noncommercial educational use. No objections were filed to the proposed reservation.

Longview

880. (a) **Census Data.** The City of Longview has a population of 20,000.

(b) **Counterproposal to Twin Cities Broadcasting Corporation.** Twin Cities Broadcasting Corporation requested the additional assignment of VHF Channel 2 to Longview. Plan 1 would assign Channel 2 to Longview without making any other changes in the assignments proposed in the Third Notice. Plan 2 would shift Channel 6 or 8 or 10 from Vancouver, Canada, to Victoria, Canada, shift Channel 2 from Victoria to Vancouver, and make the additional assignment of Channel 2 to Longview.

(c) **Statement in Support of Twin Cities Broadcasting Corporation Counterproposal.** Twin Cities Broadcasting Corporation stated that the City of Longview has a diversity of industries; that it is the center of a trading territory of more than 75,000 people; that the area could support a VHF channel; that the population of the City of Longview has increased 63% since 1940; that Cowlitz County in which the city is located has a population of 53,132 persons and has increased 32% since 1940; and that VHF channels were not made available for use in the southwest section of the State of Washington due to the fact that they were assigned to the large areas in northern Washington.

(d) Plan 1 would result in a co-channel separation of 158 miles between Longview and Victoria, B. C., on Channel 2. Plan 2 would create a 75 mile adjacent channel separation between Victoria on Channel 6 or 8 or 10 and Seattle, Washington, on Channels 7 and 9; and 190 mile co-channel seperation between Vernon, B. C., and Vancouver, B. C. on Channel 2.

(e) **Oppositions and Conflicting Counterproposals to Twin Cities Broadcasting Corporation Counterproposal.** Opposition and conflicting counterproposals to the counterproposal of Twin Cities Broadcasting Corporation were filed by Central Willamette Broadcasting Co., Albany, Oregon; KVOS, Inc., Bellingham, Washington; Totem Broadcasters, Inc., KING Broadcasting Co.; and Fisher's Blend Station, Inc., of Seattle, Washington. The Twin Cities Broadcasting Corporation Plan 2 together with the counterproposal of KVOS, Inc., would create an adjacent channel separation between Vancouver-New Westminster on Channel 2 and Chilliwack on Channel 3. The distance from Vancouver to Chilliwack is 58 miles and the distance from New Westminster to Chilliwack is 47 miles.

Albany

881. (a) **Census Data.** The City of Albany has a population of 10,000.

(b) **Counterproposal of Central Willamette Broadcasting Company.** Central Willamette Broadcasting Company requested that VHF Channel 4 be assigned to Albany,[176]

[174] Queen City Broadcasting Company also filed a comment in which it stated that it had no objection to the assignment of Channel 2 to Seattle provided such assignment does not result in the removal of Channel 4 from Seattle, but submitted no sworn statement. Accordingly, the request has not been considered further.

[175] Plan 1 of Fisher's Blend Station, Inc., is identical with the counterproposal of Totem Broadcasters, Inc.

[176] In a counterproposal filed May 7, 1951, Central Willamette Broadcasting Company requested the assignment of VHF Channel 12 to Albany. In its sworn statement, however, Central Willamette requested Channel 4 in lieu of Channel 12. Although several parties have opposed the request for the assignment of Channel 4 on the merits, no party has objected to the acceptance of the new counterproposal in this proceeding. Accordingly, the Commission is considering the request for the assignment of Channel 4 in Albany on the merits.

by making the following changes in the assignments proposed in the Third Notice:

City	Third Notice		Proposed Changes	
	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.
Albany, Ore.		55	4†	55
Medford, Ore.	4, 5		5, 8†	
Yreka, Calif.	11		10†	
Eugene, Ore.	*9	20, 26	*9, 11†	20, 26
Salem, Ore.	3	*18, 24	2†	*18, 24
Portland, Ore.	6, 8, *10, 12	21, 27	5†, 8, *10, 12	21, 27
Longview, Wash.		33	3†	33
Seattle, Wash.[177]	4, 5, 7, *9	20, 26	2†, 4, 6†, 7, *9	20, 26
Bellingham, Wash.		18, 24	12†	18, 24
Victoria, B. C.	2	40, 46	5†	40, 46
Chilliwack, B. C.	12	42	†	42
Vancouver-New Westminster, B. C.	6, 8, 10	14, 30, 36	3†, 8, 10	14, 30, 36

(c) Statement in Support of Central Willamette Broadcasting Company Counterproposal. Central Willamette Broadcasting Company stated that the proposed assignment of 1 UHF channel to Albany is inadequate, that the City of Albany had a 78% increase in population between 1940 and 1950, that the terrain in the area is better adapted to VHF than UHF, and that the assignments in the counterproposal would result in a fairer and more efficient utilization of the available frequencies.

(d) The Central Willamette Broadcasting Company counterproposal would result in co-channel separations of 200 miles between Victoria and Portland on Channel 5, and 212 miles between Vancouver-New Westminster and Longview on Channel 3; an adjacent channel separation of 75 miles between Victoria on Channel 5 and Seattle on Channel 6; and the deletion of Channel 12 from Chilliwack. It was suggested in the counterproposal that the Canadian Government could assign Channel 3 to Chilliwack to replace Channel 12 instead of to Vancouver-New Westminster. This suggestion, however, would result in the deletion of Channel 6 from Vancouver-New Westminster with no VHF replacement. It was also suggested that the Canadian Government could assign a UHF channel to Chilliwack to replace Channel 12. In any event the Central Willamette Broadcasting Company counterproposal would require the deletion of a VHF assignment from a Canadian city.

(e) Opposition and Conflicting Counterproposals to the Central Willamette Broadcasting Company Counterproposal. Oppositions and conflicting counterproposals to the counterproposal of Central Willamette Broadcasting Company have been filed by King Broadcasting Company, Seattle; KVOS, Inc., Bellingham, Totem Broadcasters, Inc., Seattle; Twin Cities Broadcasting Corp., Longview; Fisher's Blend Station, Inc., Seattle, all of Washington; and Lane Broadcasting Company, Eugene, Oregon.

Conclusions: Seattle Educational Reservation

882. On the basis of the record the reservation of Channel 9 at Seattle for non-commercial educational use is finalized.

Conclusions: Albany

883. The Central Willamette Broadcasting Company counterproposal would result in a 200 mile co-channel assignment spacing between Victoria, B.C. and Portland on Channel 5, and a 212 mile co-channel assignment spacing between Vancouver-New Westminster, B.C. and Longview on Channel 3; and Channel 5 at Victoria would be 75 miles from the adjacent channel assignment, Channel 6, at Seattle. Further, this counterproposal would require the deletion of Channel 12 from Chilliwack in Canada. Central Willamette Broadcasting Company suggested that Channel 12 could be replaced in Chilliwack by assigning Channel 3 to Chilliwack instead of to Vancouver-New Westminster as proposed in the Central Willamette counterproposal, or by assigning an additional UHF channel to Chilliwack. However, in any event, the Central Willamette Broadcasting Company counterproposal would require the deletion of a VHF assignment from a Canadian community. The Central Willamette Broadcasting Company counterproposal must be denied for the reasons set forth above in our discussion of Canadian-United States television assignments.

Conclusions: Bellingham, Longview, Seattle

884. Twin Cities Broadcasting Corporation (Plan 1) would assign Channel 2 to Longview, without making any other changes in assignments. However, Channel 2 at Longview would be 158 miles from the co-channel assignment at Victoria, B.C. The Twin Cities Broadcasting Corporation (Plan 1) counterproposal must be denied for the reasons set forth above in the discussion of Canadian-United States television assignments.

885. The remaining counterproposal of Twin Cities Broadcasting Corporation (Plan 2), seeks a first VHF channel for Longview; the counterproposal of KVOS, Inc. seeks a first VHF channel for Bellingham; and the counterproposals of Fisher's Blend Station, Inc. and Totem Broadcasters, Inc. seek a fifth VHF channel for Seattle. Only one of the above counterproposals can be granted since they are all conflicting. We are of the view that the assignment of a first VHF channel to Bellingham, a city of 34,000 people, is to be preferred to the assignment of a first VHF channel to Longview, a city with a population of only 20,000, or to the assignment of a fifth VHF channel to Seattle. Accordingly, the KVOS, Inc. counterproposal is granted and Channel 12 is assigned to Bellingham. In order to accomplish this, Channel 3 will be assigned to Chilliwack, B.C. in place of Channel 12.

886. Since we have granted the KVOS, Inc. counterproposal for Bellingham, the conflicting counterproposals of Fisher's Blend Stations' Inc., (Plans 1 and 2), Totem Broadcasters, Inc., and Twin City Broadcasting Corporation (Plan 2) must be denied.

887. Fisher's Blend Stations, Inc. (Plan 1) and Totem Broadcasters, Inc., in assigning a fifth VHF channel to Seattle, would assign Channel 3 to Victoria, B.C. However, the KVOS, Inc. counterproposal assigns Channel 3 to Chilliwack, B.C., 81 miles from Victoria. The Totem Broadcasters, Inc. counterproposal and Fisher's Blend Stations, Inc. (Plan 1) counterproposal must be denied for the reasons set forth above in our discussion of Canadian-United States television assignments.

888. The Fisher's Blend Stations, Inc. (Plan 2) counterproposal, in assigning a fifth VHF channel to Seattle, would assign Channel 12 at Victoria, B.C. However, Channel 12 at Victoria would be only 48 miles from the assignment of Channel 12 in Bellingham resulting from our grant of the KVOS, Inc., counterproposal. The Fisher's Blend Stations, Inc. (Plan 2) counterproposal must be denied for the reasons set forth above in our discussion of Canadian-United States television assignments.

889. The Twin City Broadcasting Corporation (Plan 2) counterproposal, in assigning a VHF channel to Longview, would assign Channel 2 to Vancouver-New Westminster, B.C. However, in granting the KVOS, Inc. counterproposal for Bellingham, Channel 3 is assigned to Chilliwack, B.C. Channel 3 at Chilliwack would be 47 miles from New Westminster and 58 miles from Vancouver where adjacent Channel 2 is proposed to be assigned by Twin City. The Twin City Broadcasting Corporation (Plan 2) counterproposal must be denied for the reasons set forth above in our discussion of Canadian-United States television assignments.

Final Assignments and Reservation

890. The following assignments and reservation are adopted:[178]

City	VHF Channel No.	UHF Channel No.
Bellingham, Wash.	12	18, 24
Longview, Wash.		33
Seattle, Wash.	4, 5, 7, *9	20, 26
Albany, Ore.		55

ELLENSBURG, WASHINGTON

891. (a) **Proposed Assignment.** In the Third Notice the Commission proposed the assignment of UHF Channel 49 to Ellensburg.

(b) The Central Washington Broadcasters, Inc., supported the proposed assignment of Channel 49 to Ellensburg. No objections were filed to the assignment of this channel.[179]

Conclusions

892. In view of the foregoing the proposed assignment of Channel 49 for Ellensburg is adopted.

THE WASHINGTON EDUCATIONAL RESERVATIONS

893. (a) **Proposed Reservations.** In the Third Notice, the Commission proposed the following reservations in Washington for non-commercial educational use:

City	VHF Channel No.[180]	UHF Channel No.
Pullman	*10	
Seattle	*9	
Spokane	*7	
Tacoma		*56

(b) **Pullman.** The State College of Washington and the State Superintendent of Public Instruction supported the reservation of Channel 10 in Pullman for non commercial educational use. No objections were filed to the reservation of this channel.

(c) The Spokane Public Schools and the State Superintendent of Public Instruction supported the reservation of Channel 7 in Spokane for non-commercial educational use. No objections were filed to the reservation of this channel.

(d) **Counterproposal of Washington State Superintendent of Public Instruction.** The State Superintendent of Public Instruction requested the assignment of one channel at each of the following communities and its reservation for non-commercial educational use: Omak-Okanogan, Wenatchee, Ellensburg, Yakima, Kennewick-Richland-Pasco and Walla Walla.

(e) **Statement in Support of Counterproposal of State Superintendent of Public Instruction.** The State Superintendent of Public Instruction stated that the middle portion of the State of Washington could not receive educational coverage from the educational reservations proposed for Tacoma, Seattle, Spokane, and Pullman. No objections were filed to the counterproposal of the State Superintendent of Public Instruction.

Conclusions

894. It is our view that the record supports the reservation of Channel 10 at Pullman and Channel 7 at Spokane for non-commercial educational use. It is our view that the record also supports the assignment and reservation for non-commercial educational use of a UHF channel in Omak-Okanogan, Wenatchee, Ellensburg, Yakima, Kennewick-Richland-Pasco, and Walla Walla. Accordingly, the counterproposal of the State Superintendent of Public Instructions for the assignment and reservation of channels to these communities for non-commercial educational use is granted.

Final Assignments and Reservations[181]

895. The following assignments and reservations are adopted:

City	VHF Channel No.	UHF Channel No.
Pullman, Wash.	*10	
Spokane	*7	
Omak-Okamogan		*35
Wenatchee		*45
Ellensburg		*65
Yakima		*47
Kennewick-Richland-Pasco		*41
Walla Walla		*22

BOISE, IDAHO EDUCATIONAL RESERVATION

896. (a) **Proposed Assignments and Reservations.** In the Third Notice the Commission proposed the assignment to Boise of VHF Channels 4, 7 and 9 with Channel 4 re-

[177] King Broadcasting Corporation is licensed for the operation of Station KING-TV on Channel 5 in Seattle. The Central Willamette counterproposal to delete Channel 5 from Seattle would require modification of the KING-TV license to terminate its operation on Channel 5.

[178] No request was made on the record for an educational reservation in Bellingham.

[179] The additional assignment of Channel 65 to Ellensburg and its reservation for non-commercial use is discussed elsewhere in this Report.

[180] The Seattle and Tacoma educational reservations are discussed elsewhere in this Report.

[181] The Seattle and Tacoma educational reservations are discussed elsewhere in this report.

served for non-commercial educational use.

(b) The JCET and the College of Idaho supported the reservation of Channel 4 in Boise for non-commercial educational use.

(c) **Counterproposal of KIDO, Inc.** KIDO, Inc. requested that Channel 9 be reserved for non-commercial educational use instead of Channel 4.

(d) **Statement in Support of KIDO, Inc. Counterproposal.** KIDO, Inc. stated that VHF Channels 2-6 were preferable to VHF Channels 7-13 for coverage of rural areas such as surround Boise; that it did not appear likely a non-commercial educational station would be established in the community in the foreseeable future; and that Channel 4 should be assigned for commercial use.

(e) **Counterproposal of Boise Valley Broadcasters.** Boise Valley Broadcasters requested that VHF Channel 7 or 9 be reserved for non-commercial educational use instead of Channel 4.

(f) **Statement in Support of Boise Valley Broadcasters Counterproposal.** It was asserted that it did not appear likely that a non-commercial educational station would be established in the foreseeable future and that Channel 4 should be assigned for commercial use.

Conclusions

897. We are of the view that the record supports the reservation of Channel 4 in Boise for non-commercial educational use. We do not recognize differences in VHF channels for assignment purposes; accordingly, the requests of KIDO, Inc., and Boise Valley Broadcasters that the educational reservation be shifted to Channel 7 or 9 are denied and the reservation of Channel 4 in Boise for non-commercial use is finalized.

MOSCOW, IDAHO EDUCATIONAL RESERVATION

898. (a) **Proposed Reservation.** In the Third Notice the Commission proposed the reservation of UHF Channel 15 in Moscow for non-commercial educational use.

(b) The University of Idaho supported the reservation of Channel 15 in Moscow for non-commercial educational use. No objection was filed to the proposed reservation of this channel.

Conclusions

899. In view of the foregoing the reservation of Channel 15 in Moscow for non-commercial educational use is finalized.

LOGAN, SALT LAKE CITY, OGDEN, PRICE, PROVO, VERNAL, UTAH

900. (a) **Proposed Assignments and Reservation.** In the Third Notice the Commission proposed the following assignments and reservation.

City	VHF Channel No.	UHF Channel No.
Logan	2	30
Ogden	12	*18, 24
Price	11	
Provo	9	22, *28
Salt Lake City	4, 5, *7	20, 26

No assignment was proposed for Vernal.

(b) **Census Data.** The standard metropolitan area of Salt Lake City has a population of 275,000 and Salt Lake City has a population of 182,000. The City of Price has a population of 6,000. The City of Vernal has a population of 3,000.

(c) **Existing Stations.** Intermountain Broadcasting and Television Corporation is licensed to operate Station KDYL-TV in Salt Lake City on Channel 4. Radio Service Corporation of Utah is licensed to operate Station KSL-TV in Salt Lake City on Channel 5.

Salt Lake City

901. (a) **Counterproposal of Salt Lake City Broadcasting Company.** Salt Lake City Broadcasting Company, Inc. requested that VHF Channel 2 be assigned to Salt Lake City by making the following changes in the assignments proposed in the Third Notice:

City	Third Notice VHF Channel No.	Third Notice UHF Channel No.	Counterproposal VHF Channel No.	Counterproposal UHF Channel No.
Logan	2	30	12†	30
Ogden	12	*18, 24	9†	*18, 24
Price	11		3†	
Provo	9	22, *28	11†	22, *28
Salt Lake City	4, 5, *7	20, 26	2†, 4, 5, *7	20, 26

(b) **Statement in Support of Salt Lake City Broadcasting Co. Counterproposal.** Salt Lake City Broadcasting Co. stated that the counterproposal would afford an additional channel to Salt Lake City without depriving any other community or state of a television facility proposed under the Commission's Third Notice; that the assignment of VHF Channel 2 as requested would meet the Commission's standards; that petitioner proposed to use a site located on Ocquirrh Mountain Ridge which is about 5,000 feet above the populated area in and around Salt Lake City; that the operation of Channel 2 in Salt Lake City as proposed would result in a first service to a substantial area and population; that the large number of persons in Salt Lake City justified the grant of an additional VHF assignment to that city; and that the population of Salt Lake City had increased approximately 20% during the ten-year period following the 1940 census. No oppositions were filed to the Salt Lake City counterproposal.[182]

(c) **The Salt Lake City Educational Reservation.** Utah State Board of Education, Ogden City Board of Education, Brigham Young University at Provo, University of Utah at Salt Lake City, and Utah State Agricultural College at Logan supported the reservation of Channel 7 at Salt Lake City for non-commercial educational use. No objections were filed to the proposed reservation.

Price

902. (a) **Counterproposal of Eastern Utah Broadcasting Co.** Eastern Utah Broadcasting Company, Price, Utah, requested that VHF Channel 6 be assigned to Price, Utah, in lieu of Channel 11.

(b) **Statement in Support of Eastern Utah Broadcasting Co. Counterproposal.** It was urged that the assignment of Channel 6 to Price in lieu of Channel 11 would result in greater coverage and that the operation of Channel 6 in Price would comply with the Commission's Standards for minimum co-channel and adjacent channel separations.

(c) **Oppositions and Conflicting Counterproposals to Eastern Utah Broadcasting Co. Counterproposal.** Salt Lake City Broadcasting Company, Inc. stated that its proposed ". . . move of Channel 2 to Salt Lake City can be accomplished with either Channel 6 or Channel 3 substituted for Channel 11 assigned to Price," and therefore that it had no objection to the assignment of Channel 6 to Price.

Vernal

903. (a) **Counterproposal of Uintah Broadcasting Company.** Uintah Broadcasting Company requested the assignment of VHF Channel 8 to Vernal. In addition, Uintah Broadcasting Company pointed out that conflicts resulting from the requested assignment of Channel 8 to Vernal could be resolved by the assignment of Channel 3 to Vernal in lieu of Channel 8.

(b) **Statement in Support of Uintah Broadcasting Company Counterproposal.** Uintah Broadcasting Company urged that operation on Channel 3 or Channel 8 in Vernal would afford a first television service to a substantial area and population.

Ogden

904. **The Educational Reservation.** The Utah State Board of Education supported the reservation of Channel 18 in Ogden. The Board requested that this reservation be maintained until educational institutions in the area had the opportunity to secure adequate data upon which to base decisions as to how this channel might best be used co-operatively for educational television. No objections to the reservation were filed.

PROVO

905. **The Educational Reservation.** The Utah State Board of Education supported the reservation of Channel 28 in Provo. The Board requested that this reservation be continued until educational institutions in the area had the opportunity to secure adequate data upon which to base decisions as to how this channel might best be used co-operatively for educational television. Brigham Young University also supported the reservation of the channel and submitted resolutions from the Provo School District Board of Education, the Nebo School District, the Alpene School District, and the Central Utah Vocational School favoring the development of non-commerical educational television in Provo. No objections to the reservation were filed.

Logan

906. **The Educational Reservation.** Utah State Agricultural College at Logan, Utah, requested the reservation of a channel on 782-890 Mc band for non-commercial educational use in Logan. The College stated that its administration and faculty believe it to be their responsibility to make the educational resources of the College available to as many persons as possible through the means of an educational television station. Accordingly, the College reported that it would give all possible support to a non-commercial educational television station by providing talent, information, and technical assistance. No objections were filed to the College's request.

Conclusions: Utah Educational Reservations

907. On the basis of the record the proposed reservations for non-commercial educational use in the State of Utah are finalized. With regard to Logan, the Commission is of the opinion, on the basis of the record, that an assignment to that city for educational use is warranted. Accordingly, UHF Channel 46 is assigned to Logan, Utah, and reserved for non-commercial educational use.

Conclusions: Additional VHF Assignments in Salt Lake City and Vernal

908. The counterproposals for additional VHF assignments in Salt Lake City and Vernal are in conformance with the Rules and standards adopted herein. We believe, on the basis of the record, that the assignment of a 4th VHF channel to Salt Lake City and a 1st VHF channel to Vernal are warranted. Accordingly, the counterproposals of Salt Lake City Broadcasting Co. and Uintah Broadcasting Company are granted.

909. With respect to the request of Eastern Utah Broadcasting Co. for the assignment of Channel 6 in Price in lieu of Channel 11, we would deny this request since the Commission does not recognize differences in VHF or UHF channels for assignment purposes. However, since the Salt Lake City counterproposal which we have granted above required a change in the Price assignment and since Channel 6 at Price would be consistent with that proposal, the request of Eastern Utah Broadcasting Co. is granted.

Final Assignments and Reservations

910. The following assignments and reservations are adopted:

City	VHF Channel No.	UHF Channel No.
Logan	12	30, *46
Ogden	9	*18, 24
Price	6	
Provo	11	22, *28
Salt Lake City	2, 4, 5, *7	20, 26
Vernal	3	

PORTLAND, OREGON

911. (a) **Proposed Assignments and Reservations.** In the Third Notice the Commission proposed the assignment to Portland of VHF Channels 6, 8, 10 and 12 and UHF Channels 21 and 27, with Channel 10 reserved for non-commercial educational use.

(b) **Support of Proposed Assignments.** KOIN, Inc. supported the assignments proposed for Portland.

(c) **The Portland Educational Reservation.** The University of Portland, the Portland Public Schools and the Portland Art Museum supported the reservation of Channel 10 in Portland for non-commercial educational use. No objection was filed to the reservation of this channel.

Conclusions: The Educational Reservation

912. It is our view that the record supports the proposed reservation of Channel 10 in Portland for non-commercial educational use.

Final Assignments and Reservation

913. The following assignments

[182] Oquirrh Radio and Television Company filed a mutually exclusive counterproposal requesting the assignment of VHF Channel 2 to Tooele, Utah. On October 1, 1951, Oquirrh Radio and Television Company withdrew its counterproposal for the use of Channel 2 at Tooele ". . . in favor of the allocation of that channel to Salt Lake City." Accordingly, the counterproposal of Oquirrh Radio and Television Company will not be considered further.

and reservation are adopted:

City	VHF Channel No.	UHF Channel No.
Portland, Ore.	6, 8, *10, 12	21, 27

EUGENE, OREGON

914. (a) **Proposed Assignments and Reservation.** In the Third Notice the Commission proposed the assignment to Eugene of VHF Channel 9 and UHF Channels 20 and 26 with Channel 9 reserved for non-commercial educational use.

(b) **Census Data.** The City of Eugene has a population of 36,000. The City of Medford has a population of 17,000.

(c) **Counterproposal of KUGN, Inc.** KUGN, Inc. requested the additional assignment of VHF Channel 11 to Eugene without making any other changes in the assignments proposed in the Third Notice.

(d) **Statement in Support of KUGN, Inc. Counterproposal.** KUGN, Inc. stated that the City of Eugene and Lane County in which it is situated contain the second largest concentration of population in the State of Oregon; KUGN, Inc. recognized that the separation between Eugene and Yreka City, California, where Channel 11 is proposed to be assigned by the Third Notice is 163 miles, but asserted that the intervening terrain is composed of rough mountainous areas and that no serious interference would occur.

(e) Channel 13 can be assigned at Eugene in accordance with the standards without making any other changes in the assignments proposed in the Third Notice.

(f) **Opposition and Conflicting Counterproposals to KUGN, Inc., Counterproposal.** No opposition or conflicting counterproposals were filed to the counterproposal of KUGN, Inc.

(g) **Counterproposal of Lane Broadcasting Company, Eugene, Oregon.** Lane Broadcasting Company requested that either VHF Channel 4 or 5, proposed to be assigned in the Third Notice to Medford, Oregon, be deleted from that community and assigned to Eugene.

(h) **Statement in Support of Lane Broadcasting Counterproposal.** Lane Broadcasting Company stated that Eugene is one of the principal market areas of the State of Oregon and with respect to population, commercial market data and cultural background is second only in the State of Oregon to the City of Portland.

(i) **Opposition and Conflicting Counterproposal to Lane Broadcasting Company Counterproposal.** A conflicting counterproposal was filed by Central Willamette Broadcasting Company, Albany, Oregon. We have elsewhere in this Report denied this proposal for the reasons there stated.

(j) **The Eugene Educational Reservation.** The University of Oregon at Eugene and School District No. 4 of Lane County supported the reservation of Channel 9 in Eugene for non-commercial educational use. No objection was filed to the reservation of this channel.

Conclusions: The Educational Reservation

915. In view of the foregoing, the reservation of Channel 9 in Eugene for non-commercial educational use is finalized.

Conclusions: Additional VHF Assignment in Eugene

916. We believe that the record supports the addition of a VHF channel in Eugene. The counterproposal of KUGN, Inc., to assign Channel 11 to that community cannot be granted since it would result in an assignment separation below the minimum separation requirements adopted herein.

917. The counterproposal of Lane Broadcasting Company would result in the deletion of a VHF channel proposed to be assigned to Medford. Although it is our view that the record supports the basis for the assignment of an additional VHF channel to Eugene, we do not believe that this assignment need be achieved at the expense of deleting one of the two VHF channels assigned to Medford. We are persuaded to this conclusion in view of the feasibility of the assignment of VHF Channel 13 at Eugene. Accordingly, the counterproposal of KUGN, Inc., and Lane Broadcasting Company in so far as they request the assignment of an additional VHF channel to Eugene are granted by the assignment of VHF Channel 13 to that community.

Final Assignments and Reservation

918. The following assignments and reservation are adopted:

City	VHF Channel No.	UHF Channel No.
Eugene, Ore.	*9, 13	20, 26

CORVALLIS, OREGON: EDUCATIONAL RESERVATION

919. (a) **Proposed Reservation.** In the Third Notice the Commission proposed the reservation of VHF Channel 7 in Corvallis for non-commercial educational use.

(b) Oregon State Agricultural College supported the reservation of Channel 7 in Corvallis for non-commercial educational use. No objections were filed to the reservation of this channel.

Conclusions

920. In view of the foregoing, the reservation of Channel 7 in Corvallis for non-commercial use is finalized.

SALEM, OREGON: EDUCATIONAL RESERVATION

921. (a) **Proposed Reservation.** In the Third Notice the Commission proposed the reservation of UHF Channel 18 in Salem for non-commercial educational use.

(b) Willamette University and Oregon State Department of Education supported the reservation of Channel 18 in Salem for non-commercial educational use. No objections were filed to the reservation of this channel.

Conclusions

922. In view of the foregoing, the reservation of Channel 18 in Salem for non-commercial educational use is finalized.

BUTTE, MONTANA

923. (a) **Proposed Assignments and Reservation.** In the Third Notice the Commission proposed the assignment to Butte of VHF Channels 4, 6, and 7 with Channel 7 reserved for non-commercial educational use.

(b) **Census Data.** The City of Butte has a population of 33,000.

(c) **Counterproposal of Copper Broadcasting Company.** Copper Broadcasting Company requested the additional assignment of UHF Channel 15 to Butte without making any other changes in the channels proposed in the Third Notice.

(d) **Statement in Support of Copper Broadcasting Company Counterproposal.** Copper Broadcasting Company stated that two commercial VHF channels were insufficient to meet the needs of Butte.

(e) **Oppositions and Conflicting Counterproposals to Counterproposal of Copper Broadcasting Company.** No oppositions or conflicting counterproposals were filed to the counterproposal of Copper Broadcasting Company.

(f) **The Butte Educational Reservation.** The JCET supported the reservation of Channel 7 in Butte for non-commercial educational use. No objections were filed to the reservation of this channel.

Conclusions: Educational Reservation

924. In view of the foregoing, the reservation of VHF Channel 7 in Butte for non-commercial educational use is finalized.

Conclusions: Channel 15

925. It is our view that the record supports the basis for the grant of an additional channel to Butte. Accordingly, the counterproposal of Copper Broadcasting Company is granted and Channel 15 is assigned to Butte.

Final Assignments and Reservation

926. The following assignments and reservation are adopted:

City	VHF Channel No.	UHF Channel No.
Butte, Mont.	4, 6, *7	15

STATE OF MONTANA: EDUCATIONAL RESERVATION

927. (a) **Proposed Reservations.** In the Third Notice the Commission proposed the following reservations for non-commercial educational use:

City	VHF Channel No.	UHF Channel No.
Billings, Mont.	*11	
Bozeman, Mont.	*9	
Great Falls, Mont.		*23
Miles City, Mont.	*6	
Missoula, Mont.	*11	

(b) **Billings.** The Eastern Montana College of Education supported the reservation of VHF Channel 11 at Billings. The following educational organizations and groups joined with Eastern Montana College in support of the reservation: Billings Business College; Billings Commercial Club; Mayor of Billings; Billings Ministerial Association; Superintendent of Schools, Laurel, Montana; County Superintendent of Schools, Yellowstone County, Billings; Rocky Mountain College; Postmaster, U.S. Post Office, Billings; P.T.A. City Council; Superintendent School District #2, Billings; and Central Catholic High School. The JCET also supported this reservation. No objection was filed to this reservation.

(c) **Bozeman and Miles City.** The JCET supported the reservation of VHF Channel 9 in Bozeman and VHF Channel 6 in Miles City and requested that these reservations be made final. No objections were filed to these reservations.

(d) **Great Falls.** The College of Great Falls supported the reservation of Channel 23 at Great Falls. The JCET also supported this reservation. The College of Great Falls requested that UHF Channel 23 be reserved until it, either alone or in cooperation with other educational institutions, was able to establish and maintain an educational television station. No oppositions to the reservation were filed.

(e) **Missoula.** The University of Montana and the Executive Board of the University supported the reservation of VHF Channel 11 at Missoula, Montana. Support of the reservation was also received from the Public Schools of Missoula and the Missoula P.T.A. Council, Missoula County Schools, Missoula County High School, and the Montana Federation of Women's Clubs. No objection to the proposed reservation was received.

Conclusions

928. In view of the foregoing, the proposed reservation of the above channels for non-commercial educational use are finalized.

Final Reservations

929. The following reservations are adopted:

City	VHF Channel No.	UHF Channel No.
Billings, Mont.	*11	
Bozeman, Mont.	*9	
Great Falls, Mont.		*23
Niles City, Mont.	*6	
Missoula, Mont.	*11	

ALBUQUERQUE, ROSWELL, AND SANTA FE, NEW MEXICO EDUCATIONAL RESERVATIONS

930. (a) **Proposed Reservations.** In the Third Notice the Commission proposed the reservation of the following channels in New Mexico:

City	VHF Channel No.
Albuquerque	*5
Roswell	*3
Santa Fe	*9

(b) **Albuquerque.** The JCET supported the reservation of Channel 5 in Albuquerque submitting statements of the University of Mexico and the New Mexico State Department of Education. No oppositions to the proposed reservations were filed.

(c) **Roswell.** The JCET supported the reservation of Channel 3 in Roswell submitting a statement of the New Mexico Military Institute at Roswell. In addition the University of Eastern New Mexico and the New Mexico Board of Education supported the reservation. No oppositions to the proposed reservation were filed.

(d) **Santa Fe.** The Santa Fe Municipal Schools supported the reservation of Cannel 9 in Santa Fe. The Board of Education of New Mexico stated that it was engaged in a survey as to the needs of the community, the costs of construction and operation, and the extent that educational television could be used in the community. The JCET also supported the reservation, submitting a statement of the Archdiocese of Santa Fe expressing interest in and a willingness to cooperate with other educational agencies in the establishment and support of a non-commercial educational television station. No oppositions to the proposed reservation were filed.

Conclusions

931. In view of the foregoing the reservation of Channel 5 in Albuquerque, Channel 3 in Roswell and Channel 9 in Santa Fe for non-commercial educational use are finalized.

GALLUP, RATON AND SILVER CITY, NEW MEXICO

932. (a) **Proposed Assignments.** In the Third Notice the Commis-

sion proposed the following assignments:

City	VHF Channel No.	UHF Channel No.
Gallup	3, 10	
Raton		46
Silver City	12	

(b) **Census Data.** Gallup has a population of 9,000; Raton a population of 8,000; and Silver City a population of 7,000.

(c) **Counterproposal of New Mexico State Department of Education.** The New Mexico State Department of Education requested the reservation of channels in Gallup, Raton, and Silver City for non-commercial educational use, as follows:

City	Third Notice VHF Channel No.	Third Notice UHF Channel No.	Counterproposal VHF Channel No.	Counterproposal UHF Channel No.
Gallup	3, 10		*3†, 10	
Raton		46		*46†
Silver City	12		*12†	

(d) **Statement in Support of New Mexico State Department of Education Counterproposal.** The Department of Education pointed out that New Mexico is a rural state with population unevenly distributed and that approximately one-half of the counties in the state, the more rural counties, do not have supervisors or special teachers to aid the state's educational program. The Department of Education urged that the use of educational television would enable available personnel to extend their services and made them more effective. The Department of Education stated that the education of adults is a particularly pressing problem in the state, and that it believes the use of television would make it possible and feasible to carry on adult educational programs without the expenditure of large sums which are not now available. The Department of Education stated that the reservation of six channels in New Mexico (three proposed in the Third Notice and three additional requested) would afford adequate coverage to the State. It was contended that the topography requires six stations to obtain the desired coverage. The Department of Education argued that the reservation of these channels was indispensable in order to provide sufficient time to explore all aspects of educational television and to raise funds necessary for the construction and operation of the non-commercial educational television stations. No oppositions to the proposed reservations were filed.

Conclusions

933. The Commission is of the view that the record supports the basis for reserving channels in Gallup, Raton and Silver City for non-commercial educational use. However, we do not believe the only channels in Raton and Silver City and one of two channels in Gallup should be reserved in light of the needs in these communities for commercial service. Accordingly, Channel 8 will be added to Gallup, Channel 52 will be added to Raton, and Channel 10 will be added to Silver City, all to be reserved for non-commercial educational use. The addition of Channel 10 in Silver City, which is within 250 miles of the Mexican border, has been reflected in the Mexican-United States Television Agreement, as modified.

Final Assignments and Reservations

934. The following assignments and reservations are adopted:

City	VHF Channel No.	UHF Channel No.
Gallup	3, *8, 10	
Raton		46, *52
Silver City	*10, 12	

YUMA, ARIZONA

935. (a) **Proposed Assignments.** In the Third Notice the Commission proposed the assignment of two channels to Yuma, Arizona: VHF Channels 11 and 13.

(b) **Census Data.** Yuma, Arizona has a population of 9,000.

(c) **Counterproposal of American Broadcasting Company, Inc.** American Broadcasting Company, Inc., Los Angeles, California, filed a counterproposal which, among other changes, would substitute VHF Channel 9 and UHF Channel 47 in Yuma for VHF Channels 11 and 13 in an effort to avoid duplication of VHF Channels 7 and 9 in Los Angeles and Mexicali, Mexico as proposed in the Third Notice. Since the filing of the ABC counterproposal, however, the Mexican-United States Television Agreement has substituted Channel 3 in Mexicali for Channels 7 and 9 and ABC has supported these assignments. Accordingly, the counterproposal of ABC for Yuma is moot and will not be discussed further in this Report.

Final Assignments

936. The following assignments are adopted:

City	VHF Channel No.	UHF Channel No.
Yuma, Ariz.	11, 13	

PHOENIX AND TUCSON, ARIZONA EDUCATIONAL RESERVATION

937. (a) **Proposed Reservation.** In the Third Notice the Commission proposed the reservation of VHF Channel 8 in Phoenix and VHF Channel 6 in Tucson for non-commercial educational use.

(b) **Phoenix.** The JCET supported the reservation of Channel 8 in Phoenix submitting statements of the Dean of Phoenix College and Arizona State College at Tempe, Arizona, in support of the reservation. No oppositions to the proposed reservation were filed.

(c) **Tucson.** The University of Arizona supported the reservation of Channel 6 in Tucson stating that the Tucson Public Schools had expressed a willingness to cooperate in the establishment and operation of an educational television station. The JCET also supported the reservation. No oppositions to the proposed reservation were filed.

Conclusions

938. In view of the foregoing the reservation of Channel 8 in Phoenix and Channel 6 in Tucson for non-commercial educational use is finalized.

SACRAMENTO, FRESNO, SANTA BARBARA, VISALIA, CALIFORNIA

939. (a) **Proposed Assignments and Reservations.** In the Third Notice the Commission proposed the following assignments and reservations:

City	VHF Channel No.	UHF Channel No.
Sacramento	6, 10	*40, 46
Fresno	12	*18, 24
Santa Barbara		20, 26
Visalia	3	

City	Third Notice VHF Channel No.	Third Notice UHF Channel No.	Counterproposal 1 VHF Channel No.	Counterproposal 1 UHF Channel No.	Counterproposal 2 VHF Channel No.	Counterproposal 2 UHF Channel No.
Monterey	8		8		†	19†, 58† or 64†
Sacramento	6, 10	*40, 46	3†, 6, 10	*40, 46	6, 8†, 10	*40, 46
Reno	3, 8	*21, 27	2† or 4†, 8	*21, 27	3, 11†	*21, 27

(b) **Census Data.** The Sacramento standard metropolitan area has a population of 277,000 and the City of Sacramento a population of 138,000. The Fresno standard metropolitan area has a population of 277,000 and the City of Fresno has a population of 92,000. Santa Barbara has a population of 45,000. Visalia has a population of 12,000.

Sacramento

940. (a) **Counterproposal of McClatchy Broadcasting Company.** McClatchy Broadcasting Company requested the additional assignment of VHF Channel 3 to Sacramento by substituting VHF Channel 4 in Reno, Nevada for VHF Channel 3, as follows:[188]

City	Third Notice VHF Channel No.	Third Notice UHF Channel No.	Counterproposal VHF Channel No.	Counterproposal UHF Channel No.
Sacramento, Calif.	6, 10	*40, 46	3†, 6, 10	*40, 46
Reno, Nevada	3, 8	*21, 27	4†, 8	*21, 27

(b) **Statement in Support of McClatchy Broadcasting Company Counterproposal.** McClatchy Broadcasting Company stated that Sacramento is the capital of California and is one of the fastest growing metropolitan areas in the United States. It was asserted that Sacramento increased 28.1% in population in the 10 year period between 1940 and 1950, and that during this same period, the Sacramento metropolitan area increased 61.8% in population. McClatchy urged that the assignment of Channel 3 in Sacramento is justified, in that it would meet the objectives of Sections 1 and 307(b) of the Communications Act, to provide a fair, more efficient and equitable distribution of television facilities than would the Third Notice. It was submitted that this assignment would conform to the principles expressed by the priorities. McClatchy Broadcasting Company submitted that those counterproposals conflicting with the assignment of VHF Channel 3 to Sacramento should be rejected in light of the urgent need for an additional VHF assignment at Sacramento. McClatchy pointed out that the Commission has proposed five VHF and five UHF channels for San Francisco and a total of only four channels for Sacramento, and argued that the equities favor the assignment of an additional channel to Sacramento. It was also contended that an additional VHF channel in Sacramento is to be preferred over an additional channel for Fresno.

[188] It was stated that Channels 2, 5, and 11 could also be assigned to Reno.

(c) **Counterproposal of Harmco, Inc., and KCRA., Inc.** Harmco, Inc. and KCRA, Inc., filed a joint counterproposal requesting the assignment of an additional VHF channel to Sacramento. Two plans for accomplishing this assignment were proffered: Plan 1 would substitute Channel 2 or 4 in Reno for Channel 3, and Plan 2 would substitute a UHF channel in Monterey for VHF Channel 8 and Channel 11 for Channel 8 in Reno, as follows:

(d) **Statement in Support of Harmco - KCRA Counterproposal.** Harmco, Inc., and KCRA, Inc., noted that there are four AM and three FM stations operating in Sacramento; and that there were 18,500 VHF television receivers in use in the Sacramento trading area as of September 1, 1951. It was urged that Sacramento could support an additional VHF channel and that such assignment would enable the establishment of "a truly competitive television service."

(e) Channel 3 in Sacramento would be 209 miles from the closest co-channel assignment in Eureka, California; and 80 miles from the adjacent channel Station KRON-TV operating on Channel 4 in San Francisco; and 75 and 68 miles, respectively, from the adjacent channel assignment of Channel 2 in San Francisco-Oakland. Channel 4 in Reno would be 190 miles from the transmitter of KRON-TV operating in San Francisco on Channel 4. All of the above communities are situated in Zone II and the above assignments would meet the minimum required separations for assignments in this Zone. Channel 2, 5, or 11 in Reno, however, would not meet the required 190 mile minimum separation for co-channel assignments. Channel 8 at Sacramento would meet the minimum required mileage spacings for Zone II.

(f) **Oppositions and Conflicting Counterproposals to the McClatchy Broadcasting Company and Harmco-KCRA Counterproposals.** The McClatchy Broadcasting Company counterproposal was opposed by the California Inland Broadcasting Company, Fresno, California; Columbia Broadcasting System, Inc.; and the Chronicle Publishing Company, licensee of Station KRON-TV operating on Channel 4 in San Francisco. The McClatchy counterproposal conflicts with the California Inland Broadcasting Company counterproposal and several counterproposals seeking additional VHF channels for San Francisco-Oakland. The San Francisco-Oakland counterproposals have been denied elsewhere in this Report. The Harmco-KCRA counterproposal was opposed by the Monterey Radio-Television Company, Monterey, California; Kenyon Brown,

Reno, Nevada; the American Broadcasting Company, Inc., operating Station KGO-TV on Channel 7 in San Francisco; and the Chronicle Publishing Company. The Harmco-KCRA counterproposal conflicts with the counterproposals of Television California, Oakland, California; California Inland Broadcasting Company, Fresno, California; Kenyon Brown, Reno, Nevada; Tribune Building Company, Oakland, California; Salinas Broadcasting Company, Salinas, California; KROW, Inc., Oakland, California; and CBS, Inc., San Francisco, California. In its oppositions to the Sacramento counterprosal, CBS argued that it was more important, in order to afford the opportunity for a nationwide competitive television service, to provide an additional VHF channel in San Francisco than to provide an additional VHF assignment for Sacramento. Chronicle Publishing Company opposed the assignment of Channel 3 in Sacramento contending that it would degrade the service of Station KRON-TV on Channel 4 in San Francisco. For the same reason, KRON-TV opposed the assignment of Channel 4 in Reno. Monterey Radio-Television Company opposed the Harmco-KCRA plan insofar as it would delete VHF Channel 8 from Monterey, and urged that it was possible to assign an additional VHF channel to Sacramento without deleting the Monterey assignment. ABC, Inc., opposed the assignment of Channel 8 in Sacramento if it would mean a limitation on the power of Station KGO-TV operating on Channel 7 in San Francisco.

(g) **Sacramento Educational Reservation.** The Sacramento City Unified School District supported the proposed reservation of UHF Channel 40 in Sacramento for noncommercial educational use, stating the preparations were under way to study and advise with the Sacramento Area Educational Television Committee concerning the joint cooperation in the operation of an educational station. The Director of the Grant Union High School and Technical College filed a request on behalf of the Sacramento Area Educational Television Committee that VHF Channel 6 be reserved in Sacramento rather than UHF Channel 40. This Committee represents the Amador, Colusa, Sacramento, Stanislaus, Yolo, and Yuba County Public School Systems. It was contended that a VHF assignment was required in Sacramento to provide adequate coverage in a region of high mountain ranges and large valleys. No oppositions to the proposed reservation or the request for a VHF reservation were filed.

Fresno

941. (a) **Counterproposal of McClatchy Broadcasting Company.** McClatchy Broadcasting Company requested the additional assignment of three additional VHF channels to Fresno by substituting Channel 11 for Channel 5 in Goldfield, Nevada; Channel 13 for Channel 9 in Tonopah, Nevada; and Channel 12 for Channel 13 in Las Vegas, Nevada, as indicated below:

City	Third Notice VHF Channel No.	Third Notice UHF Channel No.	Counterproposal VHF Channel No.	Counterproposal UHF Channel No.
Fresno, Calif.	12	*18, 24	5†, 7†, 9†, 12	*18, 24
Goldfield, Nevada	5		11†	
Las Vegas, Nevada	8, *10, 13		8, *10, 12†	
Tonopah, Nevada	9		13†	

(b) **Statement in Support of McClatchy Broadcasting Company Counterproposal.** McClatchy Broadcasting Company urged that Fresno is the central city of the Fresno standard metropolitan area, which increased in population 53.6% since 1940. It was also stated that the Fresno city population increased 49.3% since 1940. It was urged that the assignments proposed for Fresno in the Third Notice are inadequate, particularly since only one VHF channel is assigned to that community and one of the two UHF channels is reserved for non-commercial educational use. It was argued that the size and importance of Fresno requires the assignment of at least three additional VHF channels. McClatchy argued that the operation of Channels 5, 7 and 9 would be feasible in Fresno. It was stated that Channel 5 at Fresno would be 161 miles from Station KPIX operating on Channel 5 in San Francisco; Channel 7 would be 162.5 miles from Station KGO-TV operating on Channel 7 in San Francisco; and Channel 9 would be 161 miles from San Francisco and 155 miles from Oakland, where Channel 9 is assigned. McClatchy submitted that while these assignments would result in separations "somewhat less than those specified" in the Third Notice, the safety factor provided by the mountain range between Fresno and San Franciso "will set off the effect of reduced distance and enable full power operations from the Fresno site." It was argued that where there are unusual terrain conditions, such as exist in California, it would be good engineering practice to apply these geographical advantages to the assignment of television facilities. Data has been submitted concerning high frequency field intensity measurements made across a mountain path between the period of August 17 and September 17, 1951, in support of McClatchy's proposal. McClatchy contended that mountainous terrain has a substantial effect on the propagation along the same length path over relatively smooth terrain. It was argued that the measurements submitted by McClatchy demonstrate that the reduction in signal due to the mountainous terrain would be on the order of 7 db, and that such a reduction should permit closer spacings of co-channel stations in this area. McClatchy also submitted that the same degree of protection afforded by a co-channel spacing of 170 miles could be obtained by a slight reduction in power. McClatchy urged that the Commission must strike a balance between the need for more VHF service and an endeavor to give a few stations a wider service range. It was also urged that, if necessary, distances could be maintained by proper site selection.

(c) **Conflicting Counterproposals and Oppositions to McClatchy Broadcasting Company Counterproposal.** Oppositions to the McClatchy Company counterproposal have been filed by KPIX, Inc., and American Broadcasting Company, Inc., San Francisco, California. American Broadcasting Company, Inc., licensee of Station KGO-TV operating on Channel 7 in San Francisco, pointed out that the McClatchy counterproposal would involve co-channel operation between KGO-TV and Fresno at 162.5 miles. ABC urged that, while there is no question that the terrain may affect the coverage which a television station may expect to provide, the terrain between the transmitter and the receiver, separated by a distance comparable to that between Fresno and San Francisco, may have little or no effect on the tropospheric propagation over that path. It was noted that tropospheric propagation includes all transmissions resulting from departure from the standard atmosphere and that the troposphere is that portion of the earth's atmosphere occupying the space above the earth up to about 6 miles. ABC contended that when this is taken into consideration, the existence of a mountain range of only a few thousand feet in height, occupying but a small percentage of the total path, might have little influence on interfering signals propagated through the troposphere. It was stated that, moreover, service field calculations indicate that under certain conditions higher than a normal field behind a mountain might be expected than would be predicted from propagation curves based on the assumption of a smooth earth. It was also urged by ABC that the field intensity measurements submitted on behalf of McClatchy were made at a single point approximately 100 miles from the transmitter site of KRON-TV in the direction of Fresno. The measurements consisted of continuous recordings of the field strength of KRON-TV over a period of only one month. It was noted in the discussion of these field intensity measurements that no information was offered as to whether investigations were made to determine that the site selected for the recordings was one in which a generally homogenous field existed, nor was informaion given as to whether the general area was probed at pertinent locations or at antenna heights different from those used for the recordings. It was also noted that Channel 7 is in a different portion of the spectrum from Channel 4, and from the FM frequencies under which the measurements were made. It was, therefore, submitted by ABC that any conclusions drawn from these measurements can only be applicable to the FM frequency spectrum or to Channels 2 through 6. It was urged that it would be unsound to assign co-channel television stations in Fresno and San Francisco based on very limited data such as that offered by McClatchy. It was also pointed out that there was no indication given whether the fields received were due to ground wave transmissions or to tropospheric propagation and that there was no information to indicate whether the field intensity level on Channel 7 might be the same or entirely different from the field intensities which were actually recorded. It was also noted that there was no information indicating that the field intensity of the stations which were recorded and of the other stations in San Francisco might be the same or entirely different, 10, 20, or 30 miles farther from San Francisco. ABC pointed out that there was no information in the report indicating what level field intensity might be expected in the San Francisco service area from a television station operating in Fresno. Accordingly, ABC concluded that the only thing that might be derived from this report is that during the period from August 17 to September 17, 1951, the received field intensity of KRON-TV, KNBC-TV and KCRA-FM was of the magnitude shown in this report at the particular receiving location selected. ABC argued that in light of the foregoing it would be unsound to assign Channel 7 to Fresno.

(d) **Counterproposal of KARM, The George Harm Station.** KARM, The George Harm Station, Fresno, California, requested the assignment of three additional VHF channels to Fresno, by substituting Channel 11 for Channel 5 in Goldfield, Nevada; Channel 6 for Channel 9 in Tonopah, Nevada; and Channel 12 for Channel 6 in Ely, Nevada, as indicated below:

City	Third Notice VHF Channel No.	Third Notice UHF Channel No.	Counterproposal VHF Channel No.	Counterproposal UHF Channel No.
Fresno, Calif.	12	*18, 24	5†, 7†, 9†, 12	*18, 24
Ely, Nevada	3, 6		3, 12†	
Goldfield, Nevada	5		11†	
Tonopah, Nevada	9		6†	

It was suggested, as an alternative, that only UHF channels be assigned to Fresno.

(e) **Statement in Support of KARM, The George Harm Station, Counterproposal.** KARM, The George Harm Station, stated that there were seven pending applications for new television stations in Fresno. KARM asserted that additional VHF channels for Fresno could only be obtained by co-channel assignments with San Francisco-Oakland. It was conceded that since the distance from Fresno to San Francisco is 161 miles, such co-channel assignments would require deviations from the required minimum assignment spacing. However, it was argued that the assignment of channels to both cities would be feasible with operation in Fresno so situated as to provide the grade of service to Fresno specified in the Third Notice, and at the same time to maintain a 170 mile transmitter-to-transmitter spacing. It was urged that such operation could be achieved from a transmitter location midway between Fresno and Visalia.

(f) **Conflicting Counterproposals and Oppositions to the KARM, The George Harm Station, Counterproposal.** Oppositions to the counterproposal of KARM, The George Harm Station, were filed by KPIX, Inc., and the American Broadcasting Company, Inc., both of San Francisco.

(g) **Counterproposal of California Inland Broadcasting Company.** California Inland Broadcasting Company, Fresno, California, requested the additional assignment

of a VHF channel to Fresno by substituting UHF Channel 49 for VHF Channel 3 in Visalia, California, as indicated below:

City	Third Notice VHF Channel No.	Third Notice UHF Channel No.	Proposed Changes VHF Channel No.	Proposed Changes UHF Channel No.
Fresno, Calif.	12	*18, 24	3†, 12	*18, 24
Visalia, Calif.	3		†	49†

(h) **Statement in Support of California Inland Broadcasting Company Counterproposal.** California Inland Broadcasting Company contended that Channel 3 would be capable of widespread rural coverage only if transmitting facilities capable of radiating maximum power, with maximum permissible antenna height are utilized. It was argued that such would not be the case in Visalia, a community of only approximately 11,000 people. It was argued that the priorities would be better served by assigning VHF Channel 3 to Fresno where it would be utilized "to its maximum effectiveness." Under its counterproposal, California Inland Broadcasting Company stated that the closest co-channel assignment to Channel 3 at Fresno would be at Reno, Nevada, 192 miles distant. It was also stated that UHF Channel 49 at Visalia would meet all minimum mileage spacing requirements.

(i) **Conflicting Counterproposals and Oppositions to California Inland Broadcasting Company Counterproposal.** The California Inland Broadcasting Company counterproposal conflicts with the counterproposal of McClatchy Broadcasting Company, Sacramento, California; Harmco, Inc., and KCRA, Inc., Sacramento; Tribune Building Company, Oakland, California; Columbia Broadcasting System, Inc., San Francisco, California; Television California, San Francisco, California; and Radio KIST, Inc., Santa Barbara, California. Oppositions to the California Inland Broadcasting Company counterproposal have been filed by Television California; Tribune Building Company; Columbia Broadcasting System, Inc., and Radio KIST, Inc.

(j) **Fresno Educational Reservation.** The JCET supported the reservation of UHF Channel 18 in Fresno for non-commercial educational use, submitting statements of the Superintendent of the Fresno County Schools and Reedley College located in Fresno County. No oppositions to the reservation were filed.

Santa Barbara and Visalia

942. (a) **Counterproposal of Radio KIST, Inc.** Radio KIST, Inc., Santa Barbara, California, originally filed a counterproposal seeking the assignment of Channel 8 at Santa Barbara. Subsequently, Radio KIST, Inc., filed an alternate counterproposal[18a] requesting the assignment of VHF Channel 3 to Santa Barbara to be accomplished by deleting Channel 3 from Visalia and substituting two UHF channels as indicated below:

City	Third Notice VHF Channel No.	Third Notice UHF Channel No.	Proposed Changes VHF Channel No.	Proposed Changes UHF Channel No.
Santa Barbara		20, 26	3†	20, 26
Visalia	3		†	43†, 49†

[18a] On December 11, 1951, Radio KIST, Inc., filed a petition for leave to file further comments and evidence in the proceeding requesting, as an alternative to its previous counterproposal, that VHF Channel 3 be assigned to Santa Barbara. The Commission granted this petition by Order (FCC 52-28) of January 9, 1952 and accepted the new Radio KIST, Inc., counterproposal in this proceeding.

(b) **Statement in Support of Counterproposal of Radio KIST, Inc.** Radio KIST, Inc., urged that in light of the Mexican-United States Television Agreement removing VHF Channel 3 from San Diego, the assignment of VHF Channel 3 be made to Santa Barbara. It was noted that the distance from Santa Barbara to Mexicali, where VHF Channel 3 is assigned by the Mexican-United States Television Agreement, is 274 miles. It was urged that the distance to the adjacent channel transmitter on VHF Channels 2 and 4 on Mount Wilson, Los Angeles, would be 94 miles and that this distance meets the minimum separation requirements. The distance between Santa Barbara and San Diego where VHF Channel 8 is assigned is 188 miles.

(c) **Oppositions and Conflicting Counterproposals to the Radio KIST, Inc. Counterproposal.** Oppositions to the counterproposal of Radio KIST, Inc., seeking the assignment of VHF Channel 8, were filed by the following parties: American Broadcasting Company, Inc., Los Angeles, California; Kennedy Broadcasting Company, San Diego, California; McClatchy Broadcasting Company, Bakersfield, California; and Thomas S. Lee Enterprises, Inc., Los Angeles, California. This counterproposal conflicts with the McClatchy Broadcasting Company counterproposal for Bakersfield. Oppositions to the counterproposal of Radio KIST, Inc., seeking the assignment of VHF Channel 3 in Santa Barbara, were filed by Columbia Broadcasting System, Inc., Los Angeles, California; California Inland Broadcasting Company, Fresno, California; and National Broadcasting Company, Inc., Los Angeles, California. This counterproposal conflicts with the California Inland Broadcasting Company counterproposal for Fresno.

(d) In its opposition to the Radio KIST, Inc., counterproposal, National Broadcasting Company, Inc., licensee of KNBH operating on VHF Channel 4 in Los Angeles from Mount Wilson, alleged that a station in Santa Barbara on VHF Channel 3 would cause interference to an area of approximately 1,600 square miles within the KNBH service area. NBC urged that this would represent a substantial part of the entire KNBH interference free service area, and that the population within such area would be 109,612 persons. If the Santa Barbara station would operate at greater height than 500 feet, or at a lesser distance from KNBH, NBC noted that the interference area would be correspondingly greater.

(e) In its opposition to Radio KIST, Inc., CBS urged that the KIST counterproposal for VHF Channel 3 is contrary to the public interest. CBS noted that although Santa Barbara is 87 miles from Los Angeles, signals transmitted on VHF Channels 2 and 4 in Los Angeles are received in Santa Barbara, and that several thousand VHF receivers are on hand in Santa Barbara receiving programs from Los Angeles. The assignment of VHF Channel 3 to Santa Barbara as proposed, because of resulting interference, would prevent reception of VHF Channels 2 and 4 in the Santa Barbara area. It was also urged, in addition, that the assignment of VHF Channel 3 in Santa Barbara would create an intermixture problem since the licensee of the station on Channel 3 would operate the only VHF station in that community competing against two UHF stations.

(f) In its opposition to the KIST counterproposal, California Inland Broadcasting Company urged that while Fresno and Santa Barbara are only 160 miles apart, transmitter sites could be obtained in the Fresno area to maintain a 170 mile spacing. On this basis, California Inland Broadcasting Company interposed no objection to a finding by the Commission that both counterproposals of Radio KIST, Inc., and California Inland Broadcasting Company requesting the assignment of VHF Channel 3 to Santa Barbara and Fresno could be granted and are not in conflict. However, California Inland urged that if a determination must be made between the two proposals, the California Inland proposal should be preferred.

Conclusions: Additional VHF Channels in Sacramento

943. We are of the view that the record supports the basis for assigning an additional VHF channel to Sacramento. Counterproposals have been filed requesting both VHF Channels 8 and 3 for Sacramento: Harmco-KCRA has suggested that VHF Channel 8 be assigned to Sacramento by substituting a UHF channel for VHF Channel 8 in Monterey and VHF Channel 11 for VHF Channel 8 in Reno. However, VHF Channel 11 in Reno being only 188 miles from the co-channel assignment in San Jose would not meet the 190 mile minimum assignment separation for Zone II. VHF Channel 8, therefore, cannot be assigned to Sacramento as proposed by Harmco-KCRA. McClatchy Broadcasting Company and Harmco-KCRA have requested that VHF Channel 3 be assigned to Sacramento by substituting VHF Channel 4 for VHF Channel 3 in Reno. Both Channel 3 in Sacramento and Channel 4 in Reno would meet the minimum mileage separation requirements for assignments in Zone II. We can see no merit, therefore, in the opposition to these counterproposals by The Chronicle Publishing Company, which operates Station KRON-TV on VHF Channel 4 at San Francisco. The assignment of VHF Channel 3 in Sacramento conflicts with counterproposals seeking the assignment of additional VHF channels in San Francisco-Oakland and Fresno. We believe that the assignment of a third VHF channel to Sacramento is to be preferred to the assignment of a sixth VHF channel to San Francisco-Oakland. As noted in our discussion of the San Francisco counterproposals, we are of the view that the assignment of five VHF and five UHF channels to San Francisco-Oakland constitute a fair and equitable assignment to those communities in view of the needs of other areas for television service. With respect to the conflicting Fresno counterproposal which requests the assignment of VHF Channel 3 in Fresno as a second VHF channel, it should be pointed out that the California Inland Broadcasting Company counterproposal for Fresno also conflicts with the counterproposal of Radio KIST, Inc., seeking the assignment of a first VHF channel for Santa Barbara. VHF Channel 3 can be utilized in both Sacramento and Santa Barbara; but, on the other hand, the assigment of Channel 3 in Fresno would preclude the assigment of this frequency in both Sacramento and Santa Barbara. We believe, therefore, that the assignment of VHF Channel 3 in Fresno would effect the more efficient and equitable distribution of VHF assignments. Accordingly, VHF Channel 3 is assigned to Sacramento and VHF Channel 4 is substituted in Reno for Channel 3.

Conclusions: Educational Reservation in Sacramento

944. In the Third Notice the Commission pointed out that a VHF channel was reserved for non-commercial educational use in all communities having three or more VHF channels where all VHF channels were not in operation. Since only two VHF channels were proposed for Sacramento in the Third Notice, UHF Channel 40 was reserved in that city for non-commercial educational use. Grant Union High School and Technical College requested that VHF Channel 6 in Sacramento be reserved for non-commercial educational use. No oppositions to this request were filed. We have above assigned Channel 3 as a third VHF channel to Sacramento. We are of the view, therefore, that the reservation should be shifted in Sacramento from UHF Channel 40 to VHF Channel 6. We believe that such action is necessary and proper in light of the principle in the Third Notice set out above and the unopposed request for the VHF reservation. Accordingly, VHF Channel 6 will be reserved in Sacramento for non-commercial educational use, and UHF Channel 40 will be available for commercial purposes.

Conclusions: Educational Reservation in Fresno

945. On the basis of the record, the reservation of Channel 18 in Fresno for non-commercial educational use is finalized.

Conclusions: VHF Channels 5, 7 and 9 in Fresno

946. McClatchy Broadcasting Company and KARM, The George Harm Station, have requested the additional assignment of VHF Channels 5, 7 and 9 to Fresno. However, such assignments would result in substantial deviations from the required 190 mile minimum co-channel assignment separation for Zone II: Channel 5 would be 161 miles from KPIX on Channel 5 in San Francisco; Channel 7 would be 162.5 miles from KGO-TV on Channel 7 in San Francisco; and Channel 9 would be 161 miles from San Francisco and 155 miles from Oakland where this channel is assigned. It was urged that in light of the mountainous terrain that would separate the stations involved, the distances would be adequate safeguards to prevent interference. Measurements were submitted to substantiate this contention. We are of the view, however, that we cannot,

upon the basis of the data submitted, deviate from our required minimum. The Commission will not permit assignment separations below the minimum between stations cut off by mountain ranges until a sufficient body of pertinent propagation information on this point can be assembled and analyzed. It was also contended that station separation could be met by locating a site outside of Fresno. We do not believe that there is any basis for making assignments deviating from the required minimum assignment spacings on the basis of this contention. Nor, as we have noted elsewhere in this Report, do we believe that assignments can be made in cases such as this on the basis of operation with less than maximum power. We also see no adequate basis in the record upon which we may grant the request that all commercial assignments in Fresno be relegated to the UHF portion of the spectrum. Accordingly, the counterproposals of McClatchy Broadcasting Company and KARM, The George Harm Station, are denied.

Conclusions: Channel 3 in Fresno

947. California Inland Broadcasting Company requested the assignment of Channel 3 as a second VHF channels, to Fresno, to be accomplished by substituting a UHF channel for Channel 3 in Visalia. This request conflicts with the counterproposals of Radio KIST, Inc., seeking a first VHF channel for Santa Barbara and McClatchy Broadcasting Company and Harmco-KCRA seeking a third VHF channel for Sacramento. The assignment of Channel 3 in Fresno would preclude the assignment of this frequency in both Santa Barbara and Sacramento, while Channel 3 can be employed in Santa Barbara and Sacramento at the same time. As we have noted above, we are of the view that the granting of the Santa Barbara and Sacramento assignments is to be preferred since such action would effect the more equitable and efficient assignments in this area. Accordingly, the counterproposal of California Inland Broadcasting Company is denied.

Conclusions: Additional Channels for Fresno

948. We believe that the record supports the basis for assigning additional channels to Fresno, a city of 92,000 in a metropolitan area of 277,000. Accordingly, two additional UHF channels, Channels 47 and 53, are assigned to Fresno.

Conclusions: Additional VHF Channel in Santa Barbara

949. Radio KIST, Inc., has requested the assignment of VHF Channel 3 or 8 as a first VHF channel for Santa Barbara. Channel 8 in Santa Barbara, however, would be only 188 miles from the co-channel assignment in San Diego and thus would not meet the 190 mile minimum co-channel assignment spacing for Zone II. Channel 3 in Santa Barbara, on the other hand, would meet all minimum spacing requirements. In order to assign Channel 3 to Santa Barbara, Radio KIST, Inc., suggests that UHF Channels 43 and 49 be substituted in Visalia for Channel 3. Santa Barbara has a population of 45,000 as compared to Visalia with a population of 12,000. We believe, therefore, that a first VHF channel in Santa Barbara is to be preferred to a first VHF channel in Visalia. The assignment of Channel 3 in Santa Barbara conflicts with the California Inland Broadcasting Company counterproposal for Fresno. We believe that in view of the population of Santa Barbara, that city is entitled to a first VHF assignment before a second VHF assignment is made in Fresno. Moreover, as we have noted above, we believe that the assignment of Channel 3 in both Santa Barbara and Sacramento is to be frequency in Fresno alone. CBS prequency in Fresno alone. CBS and NBC who operate adjacent channel stations in Los Angeles on Mount Wilson (Channels 2 and 4) have opposed the assignment of Channel 3 in Santa Barbara. However, since the assignment of Channel 3 in Santa Barbara meets the minimum mileage spacing requirement, we see no merit in these oppositions. Accordingly, Channel 3 is assigned to Santa Barbara and UHF Channels 43 and 49 are substituted for Channel 3 in Visalia. As noted in connection with our discussion of international considerations, this assignment has been reflected in the Mexican-United States Television Agreement, as modified.

Final Assignments and Reservations

950. The following assignments and reservations are adopted:

City	VHF Channel No.	UHF Channel No.
Sacramento	3, *6, 10	40, 46
Fresno	12	*18, 24, 47, 53
Santa Barbara	3	20, 26
Visalia		43, 49

SAN FRANCISCO — OAKLAND, CALIFORNIA

951. (a) **Proposed Assignments and Reservation.** In the Third Notice the Commission proposed the assignment of 10 channels for San Francisco-Oakland: VHF Channels 2, 4, 5, 7 and 9 and UHF Channels 20, 26, 32, 38, and 44, with Channel 9 reserved for non-commercial use.

(b) **Census Data.** The population of San Francisco is 775,000; and the population of Oakland is 385,000. The population of the San Francisco-Oakland standard metropolitan area is 2,241,000.

(c) **Existing Stations.** Chronicle Publishing Company is licensed for the operation of Station KRON-TV on Channel 4; KPIX, Inc. is licensed for the operation of Station KPIX on Channel 5; and American Broadcasting Company, Inc. is licensed for the operation of Station KGO-TV on Channel 7, all in San Francisco.

(d) **Counterproposal of Columbia Broadcasting System, Inc.** Columbia Broadcasting System, Inc. filed a counterproposal containing four alternate plans requesting the assignment of additional VHF channel for San Francisco-Oakland: Plan 1 would add Channel 11 to San Francisco Oakland by substituting Channel 30 in Stockton, California for Channel 42; Channel 43 in Madera, California for Channel 30; Channel 51 in Salinas, California for Channel 28; and UHF Channel 42 in San Jose, California for VHF Channel 11. Plan 2 would add VHF Channel 13 to San Francisco-Oakland by substituting UHF Channel 64 for VHF Channel 13 in Stockton. Plan 3 would add VHF Channels 11 and 13 to San Francisco-Oakland by substituting UHF Channels 30 and 64 for VHF Channel 13 and UHF Channel 42 in Stockton; UHF Channel 42 for VHF Channel 11 in San Jose; Channel 51 for Channel 28 in Salinas; and Channel 43 for Channel 30 in Madera. Plan 4 would add VHF Channel 13 to San Francisco-Oakland by substituting Channel 6 in Stockton for Channel 13; Channel 3 in Sacramento for Channel 6; and Channel 5 for Channel 3 in Reno. The four plans are set out below:[185]

(e) **Statement in Support of Columbia Broadcasting System, Inc. Counterproposal.** In requesting additional VHF channels for San Francisco, Oakland, CBS advanced the same reasons offered in support of its requests for additional VHF channels in Boston and Chicago. CBS urged that additional commercial VHF channels were needed in San Francisco-Oakland as in Boston and Chicago to assure a nationwide competitive television service. CBS also argued that a network must own facilities in markets such as Boston, Chicago and San Francisco to enable it to compete with other networks and submitted that it is essential that such facilities be VHF.

(f) The CBS plans 1, 2 and 3 would delete VHF channels from San Jose and Stockton. In the Third Notice the Commission proposed four channels for San Jose: VHF Channel 11 and UHF Channels 48, 54 and 60, with Channel 54 reserved for non-commercial educational use. The San Jose standard metropolitan area has a population of 291,000 and the City of San Jose has a population of 95,000. In the Third Notice the Commission proposed three channels for Stockton, VHF Channel 13 and UHF Channels 36 and 42, with Channel 42 reserved for non-commercial educational use. The Stockton standard metropolitan area has a population of 201,000 and the City of Stockton a population of 71,000.

(g) CBS Plan 4 would assign Channel 6 to Stockton in place of Channel 13 at a distance of 188 miles from the co-channel assignment situated in Zone II; and, accordingly, this separation would not meet the 190 mile minimum for co-channel assignments in this zone. This plan would also assign Channel 5 at Reno at a distance of 185 miles from KPIX operating on Channel 5 in San Francisco.

Plan 1

City	Third Notice VHF Channel No.	Third Notice UHF Channel No.	Counterproposal VHF Channel No.	Counterproposal UHF Channel No.
Madera		30		43†
Salinas		28		51†
San Francisco-Oakland	2, 4, 5, 7, *9	20, 26, 32, 38, 44	2, 4, 5, 7, *9 11†	20, 26, 32, 38, 44
San Jose	11	48, *54, 60	†	42†, 48, *54, 60
Stockton	13	36, *42	13	*30†, 36

Plan 2

San Francisco-Oakland	2, 4, 5, 7, *9	20, 26, 32, 38, 44	2, 4, 5, 7, *9, 13†	20, 26, 32, 38, 44
Stockton	13	36, *42	†	36, *42, 64†

Plan 3

Madera		30		43†
Salinas		28		51†
San Francisco-Oakland	2, 4, 5, 7, *9	20, 26, 32, 38, 44	2, 4, 5, 7, *9 11†, 13†	20, 26, 32, 38, 44
San Jose	11	48, *54, 60	†	42†, 48, *54, 60
Stockton	13	36, *42	†	*30†, 36, 64†

Plan 4

San Francisco Oakland	2, 4, 5, 7, *9	20, 26, 32, 38, 44	2, 4, 5, 7, *9, 13†	20, 26, 32, 38, 44
Sacramento	6, 10	*40, 46	3†, 10	*40, 46
Stockton	13	36, *42	6	36, *42
Reno	3, 8	*21, 27	5†, 8	*21, 27

(h) **Conflicting Counterproposals and Oppositions to the CBS Counterproposals.** CBS Plan 1, which would substitute a UHF channel in San Jose for VHF Channel 11, was opposed by the San Jose Television Broadcasting Company of San Jose. CBS Plan 2, which would substitute a UHF channel for VHF Channel 13 in Stockton, was opposed by E. F. Peffer, Radio Diablo, Inc., and McClatchy Broadcasting Company, Stockton. CBS Plan 3, which would substitute UHF channels for VHF Channels 11 and 13 in San Jose and Stockton, was opposed by San Jose Television Broadcasting Company, San Jose, and E. F. Peffer, Radio Diablo, Inc. and McClatchy Broadcasting Company, Stockton. CBS Plan 4 was opposed by KPIX, Inc., San Francisco and E. F. Peffer, Radio Diablo, Inc., and McClatchy Broadcasting Company. This plan conflicts with the counterproposals of McClatchy Broadcasting Company and Harmco, Inc. and KCRA, Inc. seeking an additional VHF channel for Sacramento.

(i) **Counterproposal of Television California.** Television California, San Francisco, requested the assignment of an additional VHF channel to San Francisco-Oakland to be accomplished by substituting Channel 4 for Channel 3 in Reno; Channel 3 for Channel 6 in Sacramento; and Channel 6 for Channel 13 in Stockton, as indicated below:[186]

City	Third Notice VHF Channel No.	Third Notice UHF Channel No.	Counterproposal VHF Channel No.	Counterproposal UHF Channel No.
Sacramento	6, 10	*40, 46	3†, 10	*40, 46
San Francisco-Oakland	2, 4, 5, 7, *9	20, 26, 32, 38, 44	2, 4, 5, 7, *9, 13†	20, 26, 32, 38, 44
Stockton	13	36, *42	6†	36, *42
Reno	3, 8	*21, 27	4†, 8	*21, 27

[185] CBS also requested, in the alternative, that the educational reservation be shifted from VHF Channel 9 to a UHF channel.

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(j) **Statement in Support of Television California Counterproposal.** Television California urged that the assignment of Channel 13 in San Francisco-Oakland can be accomplished without depriving any community of a television facility. Television California noted that its counterproposal conflicted with that of McClatchy Broadcasting Company and Harmco, Inc., and KCRA, Inc., requesting the addition of a VHF channel to Sacramento. However, it was argued that Sacramento is assigned almost half as many channels as San Francisco while the population of Sacramento is scarcely 1/10th that of San Francisco. It was contended, also, that the San Francisco metropolitan area is more extensively in area than is the Sacramento metropolitan area, which is relatively compact. Television California submitted that, with these factors considered, together with the nature of the rugged terrain surrounding San Francisco, the assignment of an additional VHF channel to San Francisco would comply more fully with the mandate of Sections 1 and 307(b) of the Communications Act and of the Commission's priorities, than would the assignment of an additional VHF channel to Sacramento. Television California also urged that the assignment of an additional channel to San Francisco-Oakland is justified in light of those applicants who have participated in a hearing for television stations in San Francisco.[187]

(k) **Conflicting Counterproposals and Oppositions to Television California Counterproposal.** The Television California counterproposal conflicts with the counterproposals of McClatchy Broadcasting Company and Harmco, Inc., and KCRA, Inc. for Sacramento. Oppositions to the Television California counterproposal have been filed by E. F. Peffer; McClatchy Broadcasting Company; KPIX, Inc., San Francisco; Radio Diablo, Inc., and Harmco, Inc. and KCRA, Inc.

(l) The Television California counterproposal would assign Channel 6 to Stockton at a distance of 188 miles from the co-channel assignment at San Luis Obispo. Both Stockton and San Luis Obispo are situated in Zone II; and, therefore, this separation would not meet the 190 miles minimum for co-channel assignments in this zone.

(m) **Counterproposal of Tribune Building Company.** Tribune Building Company, Oakland, requested the assignment of an additional VHF channel in San Francisco-Oakland to be accomplished by substituting Channel 3 for Channel 13 in Stockton; Channel 2 for Channel 3 in Visalia; and Channel 4 for Channel 3 in Reno, as indicated below:

	Third Notice		Counterproposal	
City	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.
San Francisco-Oakland	2, 4, 5, 7, *9	20, 26, 32, 38, 44	2, 4, 5, 7, *9, 13†	20, 26, 32, 38, 44
Stockton	13	36, *42	3†	36, *42
Reno	3, 8	*21, 27	4†, 8	*21, 27
Visalia	3		2†	

(n) **Statement of Support of Tribune Building Company Counterproposal.** The Tribune Building Company contended that the need for television service in the Oakland-East Bay area can be met only by the assignment of an additional VHF channel exclusively for use by a licensee located in Oakland. It was urged that the Oakland-East Bay area has a greater population than that of San Francisco-West Bay area and is politically, economically and culturally a separate area. With respect to the use of UHF channels, the Tribune Building Company argued that during the period of initial development of UHF service, the existing VHF stations in San Francisco would become stronger, and the Oakland-East Bay area, during this period, would have no television outlet. It was noted that the three stations now operating in the San Francisco-Oakland metropolitan area are licensed to operate in the San Francisco-West Bay area. The Tribune Building Company argued that the Third Notice did not provide for a fair, efficient, and equitable distribution of television facilities insofar as the Oakland-East Bay area is concerned, contending that the Oakland-East Bay area should be considered as one community, and as such, is the only population center of over one million that is not assigned a VHF channel in the Third Notice. However, the Tribune Building Company stated that it does not advocate the creation of "a new metropolitan area" but seeks the assignment of Channel 13 to the San Francisco - Oakland metropolitan area. The Tribune Building Company stated that if such an assignment is made, it proposed to file an application for a construction permit to be utilized in the Oakland-East Bay area. The Tribune Building Company also argued that the hearing that has been held in the San Francisco-Oakland area gives the participants in such hearing no "vested" or other rights.[188]

The Tribune Building Company stated that its proposal would not require the deletion of channels from any community. However, it was noted that the distance between the center of Los Angeles and Visalia where co-channel operation is proposed on Channel 2, is only 168 miles. Further, the distance from Visalia to station KNXT operating in Los Angeles on Channel 2 from a Mount Wilson site is only 160 miles. Since both Los Angeles and Visalia are situated in Zone II, the assignment of Channel 2 in Visalia would not meet the 190-mile minimum spacing for co-channel assignments in this zone. The Tribune Building Company urged, however, that the terrain between Visalia and Los Angeles is very rugged, with three intervening mountain ranges, and that these mountains would produce a triple defraction of signals attenuating them greatly in the path between the two cities thereby making it technically possible to employ closer separations than would be necessary over flat terrain.

(o) **Conflicting Counterproposals and Oppositions to Tribune Building Company Counterproposal.** Oppositions to the Tribune Building Company counterproposal have been filed by E. F. Peffer; McClatchy Broadcasting Company; Radio Diablo, Inc.; The Chronicle Publishing Company; and Harmco, Inc. and KCRA, Inc. This counterproposal conflicts with the counterproposals of Harmco, Inc. and KCRA, Inc., and McClatchy Broadcasting Company of Sacramento.

(p) **Counterproposal of KROW, Inc.** KROW, Inc., Oakland, filed a counterproposal containing four alternate plans for adding VHF Channel 13 to San Francisco-Oakland. Plan 1 would add VHF Channel 13 to San Francisco-Oakland by substituting Channel 6 for Channel 13 in Stockton; Channel 3 for Channel 6 in Sacramento; and Channel 11 or Channel 13 for Channel 3 in Reno. Plan 2 would add VHF Channel 13 to San Francisco-Oakland by substituting Channel 8 for Channel 13 at Stockton; Channel 11 or Channel 13 for Channel 8 at Reno; and UHF Channel 19 for VHF Channel 8 at Monterey. Plan 3 would add VHF Channel 13 to San Francisco-Oakland by substituting UHF Channel 58 for VHF Channel 13 at Stockton. Plan 4 would assign VHF Channel 13 to San Francisco-Oakland by substituting Channel 8 for Channel 6 at Sacramento; Channel 6 for Channel 13 at Stockton; Channel 11 or Channel 13 for Channel 3 at Reno, and UHF Channel 19 for VHF Channel 8 at Monterey, California. The four plans are set forth below.[189]

(q) **Statement in Support of KROW, Inc. Counterproposal.** KROW, Inc. urged that the assignment of six commercial VHF channels should be maintained in the San Francisco-Oakland metropolitan area.[190] KROW asserted that no city in Central California compares in size or importance with the San Francisco-Oakland metropolitan area, and contended that only 4 VHF commercial channels in this area, as proposed in the Third Notice, would encourage monopoly and lack of competitive programming. It was urged that if the Commission did not assign an additional VHF channel to San Francisco-Oakland, the City of Oakland might be deprived of a VHF assignment, and that Section 307(b) of the Communications Act requires such as assignment.

(r) **Conflicting Counterproposals and Oppositions to KROW, Inc. Counterproposal.** Oppositions to KROW'S Plan 1 have been filed by McClatchy Broadcasting Company; E. F. Peffer; Radio Diablo, Inc.; and Harmco, Inc. and KCRA, Inc. This plan conflicts with the McClatchy and Harmco - KCRA counterproposals for Sacramento. Plan 2 has been opposed by Radio Diablo, Inc.; E. F. Peffer; Mc-

[187] Television California requested that the Commission in its "final order" make it clear that Channel 2 is not "reserved" in San Francisco-Oakland for any particular applicant. Television California noted that it has pending before the Commission a petition that Don Lee's application for Channel 2 be dismissed because it was no longer being prosecuted by Thomas S. Lee. We are here concerned with the assignments for the various communities. We do not believe that this is the appropriate proceeding in which to determine which applicant in a particular community will receive a television assignment. Accordingly, the Commission is not ruling here concerning the status of Channel 2 in San Francisco-Oakland in so far as it affects any specific applicant. Television California has also requested that the procedural rights of the parties whose applications have been heard should be fully preserved. Television California argued that those applicants who were heard are in a special category. The question of the status of those applicants whose applications have been heard has been disposed of elsewhere.

[188] Television California raised the question of the Commission's authority to reduce the number of VHF channels in San Francisco in view of the fact that hearings were held on applications for channels in that community. The Commission, however, is of the view that its opinion issued on December 12, 1951, in connection with the request for oral hearing of Daily News Television Company, *et al.*, makes clear that the Commission, in a proceeding such as this, may change the assignment of VHF channels for San Francisco-Oakland under the circumstances presented.

[188] The Tribune Building Company requested oral argument if the Commission ruled that the applicants who participated in the hearing in San Francisco in Docket No. 7283, et al had any "vested" rights. In light of our action in connection with those applicants who have participated in the hearing in San Francisco, the request for oral argument by the Tribune Building Company is moot.

[189] KROW, Inc. also opposed the reservation of VHF Channel 9 in San Francisco-Oakland for non-commercial educational use and suggested that a UHF channel be reserved instead.

[190] KROW, Inc. argued that since it has gone through a hearing in San Francisco on its application for a television station in that community, the Commission cannot change the assignments that were assigned to San Francisco Oakland at the time of the hearing. We believe, however, that the opinion of the Commission issued on December 12, 1951, in connection with the request for oral hearing of Daily News Television Co., et al., makes clear that the Commission, in a proceeding such as this, may change the assignment of VHF channels for San Francisco-Oakland under the circumstances presented.

	Plan 1			
	Third Notice		Counterproposal	
City	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.
Reno	3, 8	*21, 27	8, 11† or 13†	*21, 27
Sacramento	6, 10	*40, 46	3†, 10	*40, 46
San Francisco-Oakland	2, 4, 5, 7, *9	20, 26, 32, 38, 44	2, 4, 5, 7, *9, 13†	20, 26, 32, 38, 44
Stockton	13	36, *42	6†	36, *42
	Plan 2			
Monterey	8		†	19†
Reno	3, 8	*21, 27	3, 11† or 13†	*21, 27
San Francisco-Oakland	2, 4, 5, 7, *9	20, 26, 32, 38, 44	2, 4, 5, 7, *9, 13†	20, 26, 32, 38, 44
Stockton	13	36, *42	8†	36, *42
	Plan 3			
San Francisco-Oakland	2, 4, 5, 7, *9	20, 26, 32, 38, 44	2, 4, 5, 7, *9, 13†	20, 26, 32, 38, 44
Stockton	13	36, *42	†	36, *42, 58†
	Plan 4			
Monterey	8		†	19†
Reno	3, 8	*21, 27	3, 11† or 13†	*21, 27
Sacramento	6, 10	*40, 46	8†, 10	*40, 46
San Francisco-Oakland	2, 4, 5, 7, *9	20, 26, 32, 38, 44	2, 4, 5, 7, *9, 13†	20, 26, 32, 38, 44
Stockton	13	36, *42	6†	36, *42

Clatchy Broadcasting Company; Monterey Radio-Television Company; and American Broadcasting Company, Inc., San Francisco. Plan 3 has been opposed by E. F. Peffer; McClatchy Broadcasting Company; and Radio Diablo, Inc. KROW'S Plan 4 has been opposed by Monterey Radio-Television Company; American Broadcasting Company; McClatchy Broadcasting Company; E. F. Peffer; and Radio Diablo, Inc. This plan conflicts with the counterproposals of McClatchy Broadcasting Company and Harmco-KCRA for Sacramento.

(s) KROW's Plan 1 would assign Channel 6 in Stockton at a distance of 188 miles from the co-channel assignment at San Luis Obispo. KROW's Plan 2 would assign Channel 11 at Reno 188 miles from the co-channel assignment at San Jose, or Channel 13 at Reno, 185 miles from San Francisco and 178 miles from Oakland, where Channel 13 is also proposed by KROW. KROW's Plan 3 would similarly assign Channel 11 or 13 to Reno and Channel 6 to Stockton. Since all of the above communities are situated in Zone II, the proposed assignments would not meet the 190-mile minimum for co-channel assignments in this zone.

(t) **Educational Reservation.** The Superintendent of Schools of Alameda County at Oakland, filed a statement supporting the reservation of Channel 9 for non-commercial educational use in San Francisco-Oakland. The statement was filed on behalf of the Bay Area Public Schools Television Council, composed of the public school districts in the counties of Alameda, Contra Costa, Marin, San Francisco, San Joaquin, San Mateo, Santa Clara, Solano, and Sonoma; and in behalf of the San Francisco Bay Area Educational Television Committee, composed of the University of California at Berkeley, Stanford University, Mills College, San Francisco State College, San Jose State College, and the junior colleges in the area. It was represented that the reservation would be used jointly and cooperatively by the various educational organizations in the area, which have an enrollment of 350,000 with an additional 200,000 adults participating in various educational programs. It was explained that the group proposed to utilize educational television by a joint effort through the organization of a non-profit corporation or other representative body. It was stated that the organizations could finance the capital outlay believed necessary to construct and operate a television station. The JCET and California Congress of Parents and Teachers also supported the reservation. The Superintendent of Schools of Alameda opposed the CBS and KROW, Inc. suggestions that the reservation be shifted to a UHF channel arguing that the educators should not be required to carry the burden of developing UHF.

(u) **Opposition to the Educational Reservation.** Columbia Broadcasting System, Inc. and KROW, Inc. opposed the reservation of VHF Channel 9 in San Francisco-Oakland. CBS requested that a UHF channel be reserved rather than a VHF channel advancing the same reasons as those urged in connection with its opposition to VHF reservations in Boston and Chicago. KROW, Inc. contended that the reservation should be shifted to a UHF channel because the commercial operators can not afford to operate in the UHF in view of the hundreds of thousands of VHF receivers already in the area. Educators, on the other hand, it was urged were not dependent on circulation and could pioneer in the popular acceptance of UHF. Further, KROW submitted that commercial interests should have the VHF channel because they would provide a multi-purpose program service whereas an educational station would be limited to a single purpose use. KROW contended, also, that the reservation of Channel 9 deprived the San Francisco-Oakland hearing applicants of prior rights to such channel under the Commission's Rules. KROW argued that the reservation of this channel on behalf of prospective non-hearing applicants was in direct violation of established rules and policies of the Commission. Since no educational applicants appeared in the San Francisco-Oakland hearing case, and since no application was filed by any educational group requesting any of the VHF channels which had been designated for hearing, KROW contended that the applicants who had completed their hearing were entitled to priority with respect to Channel 9.

Conclusions: Educational Reservation

952. We are of the view that the record supports the basis for reserving VHF Channel 9 in San Francisco-Oakland for non-commercial educational use. We believe that the educational interests in the San Francisco-Oakland area have demonstrated on the record a strong interest in and a firm intention to proceed with the task of instituting a non-commercial educational service in this area. We are impressed with the fact that steps have been taken to coordinate the interests of a large number of educational interests. This area is one of the great cultural centers of the country, and the Commission believes it should lend every encouragement to the early establishment of an educational television service in this area. With four other VHF stations and five UHF channels available to the commercial interests, we believe that the reservation of one VHF channel for educational use is an equitable distribution of the channels available for assignment in this area.[191] Accordingly, the reservation of Channel 9 in San Francisco-Oakland for non-commercial educational use is finalized.[192]

Conclusions: Additional Commercial VHF Channels

953. Four parties: CBS, Television California, The Tribune Building Company, and KROW, Inc., have requested the assignment of additional VHF channels to San Francisco-Oakland. We are of the view, however, that the record does not support the basis for assigning additional VHF channels to this community. CBS has submitted four alternate requests: CBS Plan 1 would assign an additional VHF channel by substituting a UHF channel for the only VHF channel in San Jose, a city with a population of 95,000 in a metropolitan area of 291,000. CBS Plan 2 would assign an additional VHF channel by substituting a UHF channel for the only VHF channel in Stockton, a city with a population of 71,000 in a metropolitan area of 201,000. CBS Plan 3 would assign two additional VHF channels by substituting UHF channels for the only VHF channels in both San Jose and Stockton. CBS Plan 4 would assign an additional VHF channel by substituting VHF Channel 3 for VHF Channel 6 in Sacramento, thereby precluding the assignment of an additional VHF channel to Sacramento as requested by several parties. Further, this plan would make the assignment of Channel 6 in Stockton at a distance of only 188 miles from the co-channel assignment in San Louis Obispo and would thus violate the 190-mile minimum spacing for co-channel assignments in Zone II. Television California would similarly assign an additional VHF channel to San Francisco-Oakland by substituting Channel 3 for Channel 6 in Sacramento. The Television California counterproposal would also preclude the assignment of an additional VHF channel in Sacramento. The Television California request would also assign Channel 6 in Stockton in violation of the 190-mile minimum spacing for co-channel assignments in Zone II. The Tribune Building Company would assign an additional VHF channel to San Francisco-Oakland by substituting Channel 3 for Channel 6 in Sacramento, thereby precluding the assignment of an additional VHF channel to Sacramento. In addition, the Tribune Building Company counterproposal would assign Channel 2 in Visalia at a distance of only 160 miles from Station KNXT operating on Channel 2 in Los Angeles. This separation, also, does not meet the 190-mile minimum for co-channel assignments in Zone II. Finally, KROW, Inc. has submitted four alternate plans seeking an additional VHF assignment for San Francisco-Oakland: KROW Plan 1 would assign an additional VHF channel by substituting Channel 3 for Channel 6 in Sacramento, thereby precluding the assignment of an additional VHF channel to Sacramento. In addition, this plan would assign Channel 6 in Stockton, only 188 miles from the co-channel assignment in San Louis Obispo, and Channel 11 or 13 in Reno. Channel 11 at Reno would be only 188 miles from San Jose, and Channel 13 at Reno would be only 185 miles from San Francisco and 178 miles from Oakland, where Channel 13 is proposed to be assigned by KROW. These co-channel separations, therefore, would not meet the 190-mile minimum for Zone II. KROW Plan 2 would assign an additional VHF channel to San Francisco-Oakland by substituting a UHF channel for VHF Channel 8, the only channel assigned to Monterey-Salinas, a community with a population of 30,000.[193] This plan would also assign Channel 11 or 13 to Reno in violation of the 190-mile minimum for co-channel assignments in Zone II. KROW Plan 3 would assign an additional VHF channel to San Francisco-Oakland by substituting a UHF channel for the only VHF channel in Stockton. Finally, KROW Plan 4 would assign an additional VHF channel to San Francisco-Oakland by substituting a UHF channel for a VHF channel in Monterey. This plan would also assign Channel 6 in Stockton, and Channel 11 or 13 in Reno, in violation of the 190-mile minimum for co-channel assignment separations in Zone II.

954. As will be noted from the foregoing, the requests for additional VHF channels in San Francisco-Oakland consist of (1) those substituting UHF channels for VHF channels in San Jose, Stockton, or Monterey-Salinas; and (2) those making changes in assignments without deleting a VHF channel from any community. With respect to the first group, we do not believe that the record supports the basis for assigning an additional VHF channel in San Francisco-Oakland at the expense of deleting the only VHF channel from cities as large and as important as San Jose, Stockton or Monterey-Salinas. We are of the view that the only VHF channel should not be deleted from those communities in order to afford a sixth VHF channel to San Francisco-Oakland. In addition, the KROW Plans 2 and 4, which would delete VHF Channel 8 from Monterey, would assign Channel 11 or 13 in Reno in violation of the 190-mile minimum for co-channel assignments; and KROW Plan 4 would similarly assign Channel 6 in Stockton. With respect to the second group of requests, those which do not delete VHF channels from other communities, it will be noted that all such requests conflict with the counterproposals of McClatchy Broadcasting Company and Harmco, Inc. and KCRA, Inc. seeking the addition of a third VHF channel for Sacramento. In the Third Notice four channels were proposed for Sacramento: VHF Channels 6 and 10 and UHF Channels 40 and 46, with Channel 40 reserved for non-commercial educational use. Sacramento has a population of 138,000 and the Sacramento standard metropolitan area has a population of 277,000. We are of the view that the assignment of a third VHF channel to Sacramento is to be preferred to the assignment of a sixth VHF channel, and eleventh channel, for San Francisco-Oakland. We believe that the assignment of ten channels, five VHF and five UHF, with one VHF channel reserved for non-commercial educational use, is a fair and equitable distribution for San Francisco-Oakland in light of the need for facilities in other communities. Furthermore, every request seeking an additional VHF assignment for San Francisco-Oakland without deleting a VHF channel from another community would violate the 190-mile minimum for co-channel assignments in Zone II. In view of the foregoing, the counterproposals of CBS, Television California, The Tribune Building Company, and KROW, Inc. are denied. With respect to the Tribune Building Company and KROW, Inc. contentions that an additional assignment is needed in Oakland, it should be pointed out that the as-

[191] See also our decision with respect to the educational reservation in Boston, Mass.

[192] With respect to the contention of KROW concerning its legal rights as a participant in a hearing prior to the "freeze" raised in connection with the reservation of Channel 9, the Commission pointed out above that its opinion issued on December 12, 1951, in connection with the requests for oral hearing of Daily News Television Co., et al. makes clear that the Commission, in a proceeding such as this, may change the assignments of VHF channels for San Francisco-Oakland.

[193] As a result of our decision herein Channel 8 will be assigned to Monterey-Salinas.

signment of 10 channels have been made to San Francisco-Oakland and that the question of the standing of parties from Oakland is properly to be determined in a licensing proceeding. In view of the assignments that have been made, we do not believe it appropriate in this proceeding to determine which channel should be granted to Oakland or to an Oakland applicant.

Final Assignments

955. The following assignments and reservation are adopted:

City	VHF Channel No.	UHF Channel No.
San Francisco-Oakland	2, 4, 5, 7, *9	20, 26, 32, 38, 44

PORT CHICAGO, CALIFORNIA

956. (a) **Proposed Assignments.** In the Third Notice, no assignments were proposed for Port Chicago.

(b) **Census Data.** The population of Port Chicago is estimated at 3,290. It is an unincorporated town lying within the San Francisco-Oakland urbanized district.

(c) **Counterproposal of KECC, Inc., Pittsburg, California.** KECC, Inc. requested that Channel 15 be assigned to Port Chicago, California without any other changes in the assignments proposed by the Commission in the Third Notice.

(d) **Statement in Support of KECC, Inc. Counterproposal.** KECC pointed out that Port Chicago was located in Contra Costa and that no assignments were proposed by the Third Notice for this entire county. It was alleged that the assignment of Channel 15 to Port Chicago would meet the Commission's required mileage separations and would effectuate priorities 1 and 3 in providing a first television service to certain communities in the County, and a first and only local service to Port Chicago and the entire County. It was alleged that Contra Costa County ranks fifth in California in population and is "the fastest growing County in the State." It was argued that Section 307(b) of the Communications Act and the Commission's priorities require the assignment of a channel to Contra Costa County. It was submitted that the great bulk of population of Contra Costa County lies northeast of San Francisco, 20-30 miles distant, behind a large range of hills east of San Francisco Bay, and that these areas form an entirely separate and largely isolated community from the metropolitan centers of San Francisco and Oakland. Because of these terrain features, it was argued, television service would not be adequate for most of the County if it would have to rely on San Francisco stations for service.

(e) **Conflicting Counterproposal and Oppositions.** The assignment of Channel 15 to Port Chicago would preclude the assignment of Channel 30 to Stockton as requested by CBS in its counterproposals 1 and 3 for San Francisco. The CBS counterproposals for San Francisco have been denied elsewhere in this Report and will, therefore, not be considered further in this connection.

Conclusions

957. The assignment of Channel 15 to Port Chicago would meet our standards for minimum separations and it is our view that the record warrants the assignment of Channel 15 to that community. Accordingly, the counterproposal of KECC, Inc. is granted.

Final Assignments

958. The following assignment is adopted:

City	VHF Channel No.	UHF Channel No.
Port Chicago, Calif.		15

BAKERSFIELD, CALIFORNIA

959. (a) **Proposed Assignment.** In the Third Notice the Commission proposed the assignment of two channels to Bakersfield: VHF Channel 10 and UHF Channel 29.

(b) **Census Data.** Bakersfield has a population of 35,000.

(c) **Counterproposal of Paul R. Bartlett and Gene DeYoung.** Paul R. Bartlett and Gene DeYoung, Bakersfield, California requested the additional assignment of VHF Channel 8 to Bakersfield. No other changes are suggested to accomplish this assignment.

(d) **Statement in Support of Counterproposal of Paul R. Bartlett and Gene DeYoung.** Paul R. Bartlett and Gene DeYoung urged that the assignment of Channel 8 to Bakersfield can be effected without modifying or adversely affecting any assignment proposed in the Third Notice. It was alleged that such assignment would be in full accordance with the standards and would meet the priorities as specified in the Third Notice, in that it would make available an additional service to Bakersfield and the surrounding area without limiting or depriving any other community or area of television service.

(e) **Counterproposal of McClatchy Broadcasting Company.** McClatchy Broadcasting Company also requested the additional assignment of VHF Channel 8 at Bakersfield, to be accomplished without changing any other assignments.

(f) **Statement in Support of McClatchy Broadcasting Company Counterproposal.** McClatchy Broadcasting Company alleged that the assignment of Channel 8 in Bakersfield would meet the channel spacing requirements as set out in the Third Notice. It was noted that the distance between Bakersfield and the closest co-channel assignment at Monterey, California would be 182 miles. It was argued that the assignment of Channel 8 to Bakersfield would further the objectives of Sections 1 and 307(b) of the Communications Act, and that such assignment would conform to the principles expressed in the priorities. It was noted that the Bakersfield 1950 population increased 18.1% over that of 1940, and that Kern County, in which Bakersfield is located, has a 1950 population 68.1% greater than that of 1940.

(g) Channel 8 in Bakersfield would be 182 miles from the co-channel assignment at Monterey, California. Both Bakersfield and Monterey are situated in Zone II; and accordingly, the assignment of Channel 8 in Bakersfield would not meet the 190 mile minimum required assignment separation for this Zone.

(h) **Conflicting Counterproposals and Oppositions to the Bakersfield Counterproposals.** Radio KIST, Inc., Santa Barbara, California, originally filed a counterproposal seeking the assignment of Channel 8 to Santa Barbara. This counterproposal conflicts with the Bakersfield counterproposals, since Bakersfield and Santa Barbara are only 76 miles apart. KIST, however, later filed an alternate counterproposal seeking the assignment of Channel 3 to Santa Barbara, which has been granted elsewhere in this Report. KIST filed oppositions to the Bakersfield counterproposals since it conflicted with its original counterproposal requesting Channel 8 in Santa Barbara. The Salinas Broadcasting Company filed a counterproposal seeking the assignment of VHF Channel 8 in Salinas, California, at a distance of 172 miles from Bakersfield and in conflict with the Bakersfield counterproposals. This counterproposal is denied elsewhere in this Report.

Conclusions

960. Paul R. Bartlett and Gene DeYoung and the McClatchy Broadcasting Company requested the assignment of VHF Channel 8 to Bakersfield to be accomplished without changing any other assignments. As noted above, however, Channel 8 at Bakersfield would be only 182 miles from the co-channel assignment at Monterey. Since both these communities lie in Zone II, the assignment of Channel 8 in Bakersfield would violate the 190 mile minimum spacing for co-channel assignments. The counterproposals of Paul R. Bartlett, Gene DeYoung and McClatchy Broadcasting Company are, therefore, denied.

Final Assignments

961. The following assignments are adopted:

City	VHF Channel No.	UHF Channel No.
Bakersfield, Calif.	10	29

SALINAS AND MONTEREY, CALIFORNIA

962. (a) **Proposed Assignments.** In the Third Notice the Commission proposed the following assignments for Salinas and Monterey:

City	VHF Channel No.	UHF Channel No.
Monterey, Calif.	8	
Salinas, Calif.		28

(b) **Census Data.** The population of Monterey is 16,000 and the population of Salinas is 14,000.

(c) **Support for Proposed Monterey Assignment.** Steven A. Cisler and Monterey Radio-Television Company supported the assignment of VHF Channel 8 to Monterey. It was stated that the closest co-channel assignment would be at Reno, Nevada at a distance of 232 miles, and the closest adjacent channel assignment would be Channels 7 and 9 at San Francisco-Oakland, a distance of 86 miles. It was asserted that Monterey's population of 16,000 represented a 59.9% increase over its 1940 population.

(d) **Counterproposal of Salinas Broadcasting Company.** Salinas Broadcasting Company, Salinas, requested the assignment of a VHF channel to Salinas, to be accomplished by deleting Channel 8 from Monterey and substituting therefor Channel 28, as follows:

	Third Notice		Counterproposal	
City	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.
Monterey, Calif.	8		†	28†
Salinas, Calif.		28	8†	†

(e) **Statement in Support of Salinas Broadcasting Company Counterproposal.** Salinas Broadcasting Company pointed out that Salinas is the county seat of Monterey County, which has a population of 130,498, and that of this figure, 48,755 persons reside in Monterey and "towns located on the Monterey Peninsula and unincorporated areas on the Peninsula," and that, on the other hand, 81,743 persons reside in Salinas and the eastern portion of Monterey County of which Salinas is the hub. It was noted that Salinas has a Class III regional AM station while Monterey has only a Class IV local AM station. It was noted that Salinas lies on the main line of the Southern Pacific Railroad while Monterey is only on a branch spur. It was stated that the California Department of Employment reported that the "Salinas city area" had a population of 38,200, while the "Monterey city area" had a population of only 17,000, and that, accordingly, Salinas has a 2-1 advantage over Monterey in population. The Salinas Broadcasting Company urged that, in view of the relative standing and comparative statistics of Salinas and Monterey, the proposed assignments should be shifted, assigning VHF Channel 8 to Salinas and UHF Channel 28 to Monterey. The distance between the two communities is 15 miles. It was urged that where a VHF channel can be assigned to a larger community without "serious dislocation" of the overall assignment plan, the larger community should be assigned the VHF channel.

(f) **Oppositions and Conflicting Counterproposals to the Salinas Broadcasting Company Counterproposal.** The Salinas Broadcasting Company counterproposal conflicts with the counterproposals of Harmco, Inc., and KCRA, Inc., Sacramento, California; Columbia Broadcasting System, Inc., San Francisco, California (proposals 1 and 3); McClatchy Broadcasting Company, Bakersfield, California; and KROW, Inc., San Francisco, California. Oppositions to the Salinas Broadcasting Company counterproposal were filed by McClatchy Broadcasting Company; CBS; and the Monterey Radio-Television Company. All of the conflicting counterproposals have been denied elsewhere in this Report for the reasons there stated. In its opposition the Monterey Radio-Television Company urged that Salinas has a population of 14,000 representing an increase of only 19.9% over the 1940 census figures, while Monterey has a population of over 16,000 representing a 59.9% increase. It was contended, therefore, that not only is Monterey the larger community, but it is growing more rapidly.

Conclusions

963. The distance between Salinas and Monterey is approximately 15 miles. Stations in either community would provide Grade A service to the other on both Channels 8 and 28. The population of Monterey is only slightly greater than that of Salinas. In view of the foregoing, we are of the view that Channel 8 and 28 should be

assigned to Monterey and Salinas jointly rather than Channel 8 to Monterey and Channel 28 to Salinas separately. Channels 8 and 28 in both Salinas and Monterey will meet the required mileage spacings for assignments in this zone. Accordingly, Channels 8 and 28 will be assigned to Monterey-Salinas.

Final Assignments

964. In view of the foregoing, the following assignments are adopted:

City	VHF Channel No.	UHF Channel No.
Monterey-Salinas	8	28

RENO, NEVADA

965. (a) **Proposed Assignments and Reservation.** In the Third Notice the Commission proposed the assignment of four channels to Reno, Nevada: VHF Channels 3 and 8 and UHF Channels 21 and 27, with Channel 21 reserved for non-commercial educational use.[194]

(b) **Census Data.** The population of Reno is 32,000.

(c) **Counterproposals of Kenyon Brown.** Kenyon Brown, Reno, requested the assignment of VHF Channel 11 as an additional assignment to Reno. No other changes in assignments are suggested in order to accomplish this assignment.

(d) **Statement in Support of Kenyon Brown Counterproposal.** Kenyon Brown urged that Reno is the largest city in Nevada, with approximately 31% of the state's population. It was noted that Reno is located in Washoe County, the largest county in Nevada, with a population of 50,205. Kenyon Brown argued that an equitable distribution of television facilities requires that Reno be assigned an additional VHF channel and that the assignment of Channel 11 in Reno could be achieved without involving priorities 1 through 4, and would meet priority 5 in providing an additional facility for the largest city in Nevada. It was stated that under its counterproposal the closest co-channel assignment would be Channel 11 at San Jose, California, 188 miles from Reno.

(e) **Oppositions and Conflicting Counterproposals to the Kenyon Brown Counterproposal.** The Kenyon Brown counterproposal conflicts with the counterproposal of Harmco, Inc. and KCRA, Inc., for Sacramento, California and an opposition has been filed by Harmco and KCRA.

(f) **Educational Reservation.** The Reno School District No. 10 filed a statement supporting the reservation of Channel 21 in Reno for non-commercial educational use. No oppositions to the proposed reservation were filed.

Conclusions: Educational Reservation

966. In view of the foregoing, the reservation of Channel 21 in Reno for non-commercial educational use is finalized.

Conclusions: Additional VHF Assignment

967. Kenyon Brown has requested the additional assignment of VHF Channel 11 to Reno. However, Channel 11 in Reno would be only 188 miles from the co-channel assignment at San Jose, California. Both Reno and San Jose are situated in Zone II. Accordingly, the Kenyon Brown counterproposal would not meet the required 190 miles minimum co-channel assignment separation for this Zone and is therefore denied. It should also be noted that in light of the required separations, no VHF channel can be assigned as an additional assignment to Reno.

Final Assignments and Reservation

968. In connection with our discussion of Sacramento, California, VHF Channel 4 has been substituted for VHF Channel 3 in Reno in order to make possible the assignment of an additional VHF channel in Sacramento. In view of the foregoing, the following assignments are adopted:

City	VHF Channel No.	UHF Channel No.
Reno, Nevada	4, 8	*21, 27

LAS VEGAS, NEVADA: EDUCATIONAL RESERVATION

969. In the Third Notice, the Commission proposed the reservation of VHF Channel 10 for non-commercial educational use in Las Vegas, Nevada. The JCET filed a statement supporting the reservation. No oppositions to the proposed reservation were filed.

Conclusions

970. In view of the foregoing, the reservation of Channel 10 for non-commercial educational use in Las Vegas, Nevada is finalized.

SAN DIEGO, CALIFORNIA

971. (a) **Proposed Assignments and Reservation.** In the Third Notice the Commission proposed the assignment of six channels to San Diego, California: VHF Channels 3, 8 and 10 and UHF Channels 21, 27, and 33, with Channel 3 reserved for non-commercial educational use. However, as noted in connection with our discussion of international considerations above, the Mexican-United States Television Agreement assigns Channel 3 to Mexicali, Baja California, Mexico rather than San Diego.[195]

(b) **Census Data.** San Diego has a population of 334,000. The San Diego standard metropolitan area has a population of 557,000.

(c) **Existing Stations.** Kennedy Broadcasting Company is licensed for the operation of Station KFMB-TV in San Diego on Channel 8.

(d) **Counterproposal of Charles E. Salik.** Charles E. Salik, San Diego, requested the assignment of an additional VHF channel to San Diego, to be accomplished by deleting VHF Channel 6 or 12 from Tijuana, Mexico as indicated below:

	Third Notice		Proposed Changes	
City	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.
San Diego, Calif.	(*3) 8, 10	21, 27, 33	6† or 12†, 8, 10	21, 27, 33
Tijuana, Mexico	6, 12		12† or 6†	

(e) **Statement in Support of Counterproposal of Charles E. Salik.** Charles E. Salik pointed out that the assignment of Channels 6 and 12 in Tijuana precludes the assignment of these channels in San Diego. It was noted, that of the VHF channels proposed for San Diego, Channel 8 is already in operation and that only one other VHF channel remains unassigned. Charles E. Salik stated that there would be other applicants in addition to himself for this assignment and urged that additional VHF channels be assigned to San Diego for commercial purposes to afford a sound assignment of channels in the public interest and in conformity with Section 307(b) of the Communications Act. It was suggested that UHF channels could be utilized in Tijuana in place of VHF Channel 12 or VHF Channel 6. Charles E. Salik argued that the assignment of both VHF Channels 6 and 12 in Tijuana is "contrary to principles of sound assignment within the United States and contrary to any just obligations or principles of international accord with Mexico; and therefore contrary to the public interest."

(f) **Counterproposal of Airfan Radio Corporation, Ltd.** Airfan Radio Corporation, Ltd., San Diego, California, requested the additional assignment of a VHF channel to San Diego by deleting VHF Channel 6 or 12 from Tijuana, Mexico as indicated below:

	Third Notice		Proposed Change	
City	VHF Channel No.	UHF Channel No.	VHF Channel No.	UHF Channel No.
San Diego, Calif.	(*3), 8, 10	21, 27, 33	6† or 12†, 8, 10	21, 27, 33
Tijuana, Mexico	6, 12		12† or 6†	39, 45, 51, 57, 63

(g) **Statement in Support of Counterproposal of Airfan Radio Corporation, Ltd.** Airfan Radio Corporation, Ltd., submitted that the assignment of two VHF channels to Tijuana, Mexico would not be an equitable distribution of television facilities corresponding to the legitimate needs of the area to be served. It was suggested that UHF Channels 39, 45, 51, 57 and 63 could be assigned to Tijuana to replace VHF Channel 6 or 12.

(h) **Conflicting Counterproposals and Oppositions to the Counterproposals of Charles E. Salik and Airfan Radio Corporation, Ltd.** The American Broadcasting Company, Inc., Los Angeles, California, filed an opposition to the Charles E. Salik and Airfan Radio Corporation, Ltd. counterproposals.[196]

(i) **Educational Reservation.** The Superintendent of Schools supported an educational reservation in San Diego on behalf of the San Diego City Schools, the San Diego County Schools, and the San Diego State College. It was asserted that the $32 million budget for the above organizations would make possible the financing of an educational television station. A resolution of the San Diego City Council supporting the reservation was also submitted.

The JCET and California Congress of Parents and Teachers also supported the reservation. No oppositions to a reservation in San Diego were filed.

Conclusions: Additional Commercial Channels

972. Both Charles E. Salik and Airfan Radio Corporation, Ltd. seek additional VHF channels for San Diego to be accomplished by deleting VHF channel from Tijuana, Mexico. These counterproposals conflict with the Mexican-United States Television Agreement. Accordingly, for the reasons stated above in connection with our discussion of the Mexican-United States Television Agreement, the counterproposals of Charles E. Salik and Airfan Radio Corporation, Ltd., must be denied. However, we are of the view that the record does support the basis for assigning an additional commercial channel to San Diego. A VHF channel is not available for assignment in San Diego in accordance with the Table of Assignments adopted herein, and the Mexican-United States Television Agreement.[197] However, Channel 39 will meet all required mileage spacings for Zone II in which San Diego is situated. Accordingly, we are assigning UHF Channel 39 to that community.

Conclusions: Educational Reservation

973. We are of the view that the record supports the basis for reserving a channel in San Diego for non-commercial educational use. However as noted above, Channel 3 which was proposed in the Third Notice to be so reserved cannot be assigned to San Diego in light of the Mexican-United States Television Agreement. Accordingly, we are assigning UHF Channel 15 to San Diego and are reserving this channel for non-commercial educational use. Channel 15 meets all required mileage spacings for Zone II.

Final Assignments and Reservation

974. The following assignments are adopted:

City	VHF Channel No.	UHF Channel No.
San Diego, Calif.	8, 10	*15, 21, 27, 33, 39

LOS ANGELES, SAN BERNARDINO, SAN JOSE AND STOCKTON, CALIFORNIA: EDUCATIONAL RESERVATIONS

975. (a) **Proposed Reservations.** In the Third Notice the Commission proposed the following reservations for non-commercial educational use:

City	UHF Channel No.
Los Angeles, Calif.	*28
San Bernardino, Calif.	*24
San Jose, Calif.	*54
Stockton, Calif.	*42

(b) **Los Angeles.** The reservation of Channel 28 at Los Angeles was supported by the Superintendent of the Los Angeles City Schools, Occidental College, Chapman College, and the College of Medical Evangelists at Los Angeles. In addition, the JCET filed a statement supporting the reservation and submitted a statement supporting the reservation by the Long Beach Public Schools. No oppositions to the proposed reservation were filed.

(c) **San Bernardino.** The President and Superintendent of San Bernardino Valley College filed a statement supporting the reservation of Channel 24 for non-commercial educational television use at San Bernardino. The Statement was filed on behalf of the Riverside and San Bernardino Counties Educational Television Council.

[194] In connection with our discussion of Sacramento, California, Channel 4 is substituted for Channel 3 in Reno.

[195] Television Broadcasting Company, San Diego, California, filed a counterproposal seeking the assignment of VHF Channel 12 and UHF Channel 15 to San Diego and assigning VHF Channel 6 and UHF Channels 27 and 33 to Tijuana. However, Television Broadcasting Company has filed no sworn evidence in support of its counterproposal and it will not be considered further in this Report.

[196] Earle C. Anthony, Los Angeles, California, also filed oppositions to the Airfan Radio Corporation, Ltd. and Charles E. Salik counterproposals. However, evidence in support of its oppositions was not filed and will not be considered in this Report.

[197] In this connection see our discussion in paragraph 239 above concerning VHF assignments in the San Diego-Tijuana-Mexicali area.

which represents all of the public school districts in the counties of Riverside and San Bernardino, as well as the University of California, Riverside Campus; Redlands University; San Bernardino Valley College; Chaffey College; Riverside College; and other various colleges and public schools in the counties. It was stated that the channel will be used jointly and cooperatively by the members of the Committee. No oppositions to the reservation were filed.

(d) **San Jose.** San Jose State College filed a statement supporting the reservation of Channel 54 for non-commercial educational use in San Jose. Statements supporting the reservation were also filed by the University of Santa Clara located in the same county, and the Santa Clara County Television Council. In addition, the JCET filed a statement to which was attached evidence of support for the reservation by the Santa Clara County Schools. No oppositions to the reservation were filed.

(e) **Stockton.** The JCET filed a statement supporting the reservation of Channel 42 in Stockton for non-commercial educational use. The JCET submitted a statement of the City Manager of Stockton indicating support of the reservation by the Stockton City Council, College of the Pacific, Modesto Junior College and the Superintendent of Schools of the Stockton Unified School District. No oppositions to the proposed reservation were filed.

Conclusions

976. In view of the foregoing the following reservations for non-commercial use are finalized:

City	UHF Channel No.
Los Angeles, Calif.	*28
San Bernardino	*24
San Jose, Calif.	*54
Stockton, Calif.	*42

THE TERRITORIES

977. In the Third Notice the Commission stated that it would determine whether any issue had been raised which would prevent the early lifting of the "freeze" with respect to channel assignments in Alaska, the Hawaiian Islands, Puerto Rico and the Virgin Islands. In the absence of any such issue, the Commission proposed to lift the "freeze" without waiting to reach a final determination with respect to all the assignments proposed in Appendix C. Further consideration of this matter has, however, led to the conclusion that the "freeze" in the Territories could not be lifted until final Rules and standards had been adopted for the television broadcast service. The Commission has not, however, until this time been in a position to issue its new and revised television Rules and standards. In the absence of such a final decision with respect to these Rules and standards, it has, therefore, not been able to lift the "freeze" in the Territories before this date.

Educational Reservations in The Territories

978. (a) **Proposed Reservations.** In the Third Notice the Commission proposed the following reservations for non-commercial educational use:

City	VHF Channel No.
Anchorage, Alaska	*7
Fairbanks, Alaska	*9
Juneau, Alaska	*3
Ketchikan, Alaska	*9
Lihui, Hawaiian Islands	*8
Honolulu, Hawaiian Islands	*2
Wailuku, Hawaiian Islands	*10
Hilo, Hawaiian Islands	*4
San Juan, Puerto Rico	*6

(b) **Counterproposal of Pacific Frontier Broadcasting Co., Ltd.** Pacific Frontier Broadcasting Company, Ltd., urged that "the reservation of Channel 2 for a non-commercial educational station at Honolulu, T.H., be eliminated and that such reservations be made instead of any one of Channels 7, 9, 11 or 13. [We suggest Channel 7]." It was argued by Pacific Frontier that, due to rugged terrain, Channel 2 would provide optimum coverage on the Island of Oahu from the transmitter site contemplated on the Loolaun Range and that in view of the propagation characteristics of this frequency over rough terrain such operation would provide optimum coverage of the Island of Oahu and would therefore make a most efficient use of that television facility. Pacific Frontier stated that it desired to use a channel in the lower half of the VHF spectrum and that "in order to save expenses by joint use of the antenna structure, from both Channels 2 and 4, petitioner requests that the asterisk be removed from Channel 2, and transferred to one of the channels in the high band portion of the VHF spectrum." In response to the Pacific Frontier counterproposal the JCET stated that it "has no objection to the granting of the request of the Pacific Frontier Broadcasting Company to shift the channel at Honolulu reserved for non-commercial educational television station from VHF Channel 2 to VHF Channel 7."

(c) **The Remaining Reservations in the Territories.** The JCET supported the reservation of Channel 7 in Honolulu and Channel 6 in San Juan for non-commercial educational use. No objections were filed to the proposed reservations.

Conclusions: Honolulu Educational Reservation

979. In light of the stipulation of the JCET concerning the reservation of Channel 7 in Honolulu in place of Channel 2, the educational reservation in Honolulu is shifted to Channel 7 and Channel 2 will be available for commercial use.

Conclusions: Anchorage, Fairbanks, Juneau, Ketchikan, Lihui, Waluku, Hilo, San Juan Educational Reservations

980. On the basis of the record, and in view of the fact that no oppositions were filed, the proposed reservations of channels for non-commercial educational use in Fairbanks, Alaska; Anchorage, Alaska; Juneau, Alaska; Ketchikan, Alaska; Lihui, Hawaii; Wailuku, Hawaii; Hilo, Hawaii, and San Juan, Puerto Rico are finalized.

Final Reservations

981. The following reservations in the Territories for non-commercial educational use are finalized:

City	VHF Channel No.
Anchorage, Alaska	*7
Fairbanks, Alaska	*9
Juneau, Alaska	*3
Ketchikan, Alaska	*9
Lihui, Hawaiian Islands	*8
Honolulu, Hawaiian Islands	*7
Wailuku Hawaiian Islands	*10
Hilo, Hawaiian Islands	*4
San Juan, Puerto Rico	*6

REMAINING COMMERCIAL ASSIGNMENTS PROPOSED IN THE THIRD NOTICE

982. As indicated above (paragraph 248) no comments have been received in this proceeding with respect to the large majority of assignments proposed in the Third Notice. It is our view that the proposed assignments for which no comments have been filed and which we have not considered elsewhere in this Report constitute a fair and equitable distribution of the available channels. Accordingly, these assignments are included in the Table of Assignments (Section 3.606(b) of the Rules) and are adopted herewith.

TEMPORARY PROCESSING PROCEDURE

983. At the conclusion of this proceeding the Commission expects to receive, within a relatively short period of time, an unprecedented number of applications for new television broadcast stations. The filing and processing of these applications will be the first step toward the development of the nationwide television broadcast service provided for in the new Table of Assignments and the new rules and regulations. The Commission is, therefore, amending Section 1.371 of its Rules and Regulations by deleting footnote 10 as it presently reads and substituting a new footnote 10. The new footnote 10 to Section 1.371, designated as Appendix C-1, sets forth the procedure to be followed, until further order of the Commission, in the processing of television broadcast applications.

984. Footnote 10 sets forth in detail the manner in which the Commission will process applications for permits to construct new television broadcast stations, applications for permits and modifications thereof relating to presently operating television stations and stations authorized after April 14, 1952, applications for licenses and modifications thereof, and petitions relating to television authorizations.

985. Supplementing the underlying principles of the Table of Assignments, the processing procedure adopted today is designed to make television service available to the greatest number of people in the shortest period of time[198] consistent with the provisions of the Communications Act and the public interest. Separate processing lines are being provided for different categories of applications. With the exception of applications for channels designated for use by non-commercial educational stations, applications will be grouped within these categories and given a processing priority by category. The categories are set up on the basis of the present lack of television service in the communities for which they are filed. Applications for non-commercial educational television stations, which are expected to be relatively few in number during the period for which the temporary processing procedure is being set up, will be processed separately in the order in which they are filed, beginning July 1, 1952, except that the priorities set up for applications for other new television stations will be effective with respect to non-commercial educational stations where there is a conflict of transmitter sites cutting across the category lines. The same procedure will be followed for applications for Puerto Rico, Alaska, Hawaiian Islands, and Virgin Islands.

986. The first applications to be processed, however, will be those arising out of final determinations made by the Commission with respect to presently operating television stations whose channel assignments will be changed as a result of the orders to show cause set forth in the Commission's Third Notice, since the implementation of these changes will affect the orderly implementation of the Table of Assignments. These applications will be processed beginning with the effective date of the new rules.

987. Upon the completion of processing the applications flowing from the orders to show cause, two processing lines will be established to operate concurrently. The operation of these lines will not begin before July 1, 1952, in order to allow a reasonable period for filing new applications and amending those now on file. One line will process applications for new television stations in all cities not presently receiving television service.[199] The other line will process applications for new television stations in cities presently receiving service. Within the group in the first processing line, the cities for which applications are filed will be taken in the order of their populations, so that the largest concentrations of population now receiving no service will be handled first.

988. On the second processing line, five separate groupings are being made, each group to be handled upon completion of the preceding group. The first two of these groups give precedence to the UHF service, where either no VHF channels (excluding non-commercial educational channels) are assigned or all VHF channels (excluding non-commercial educa-

[198] Although the Commission has previously processed applications for new television broadcast stations upon the basis of the date of filing, that procedure cannot appropriately be applied to the present situation. In its order of September 30, 1948 adopting footnote 10 to Section 1.371, the Commission stated that pending applications and those thereafter filed would not be acted upon, but would be placed in the pending file. In its Notice of Further Proposed Rule Making of July 11, 1949, and its Third Notice of March 22, 1951, the Commission requested new applicants to refrain from filing applications because of the amendments which would be required when the "freeze" would be lifted. Implicit in these requests was the assurance that persons complying therewith would not be placed in a disadvantageous position vis-a-vis persons who might file new applications in disregard of the Commission's requests. Processing by date of filing would therefore be inequitable under these circumstances.

[199] A standard of 40 miles from the nearest main transmitter in operation has been adopted as the test of whether a city is receiving service. This is a reasonable standard for processing purposes based upon the record herein. The method for computing distances for this purpose is also specifically set forth in footnote 10.

tional channels) are already occupied. Since all existing stations are in the VHF band, and all present receivers require at least some modification to receive stations in the UHF band, this precedence will help enable the younger service to make a firm start, a matter of great importance to the development of the assignment pattern provided for in the Table of Assignments. The three remaining groups provide, in order, for cities with one service but no local station, for cities with one local station but no other service, and for cities receiving service from two or more stations, thus carrying out the principle of making service available first to cities now receiving none, and then making available a local service before other cities are provided with multiple services. Further priorities are provided within the categories in the second processing line, depending upon the number of operating television stations in the city, where the nature of the category permits a distinction on that basis, and otherwise upon a population basis, except for the group of cities presently receiving service but to which only UHF channels are assigned, which will be processed upon the basis of the number of services presently being received.

989. A separate processing line will be set up to handle applications to modify construction permits granted on and after July 1, 1952, petitions for reconsideration of actions taken with respect to applications for new television stations, and petitions for waiver of hearing of these applications, all to be processed as filed. The new processing procedure also provides that applications for changes in existing facilities (other than those required under the orders to show cause), and license applications, which clearly are not as urgent as applications for construction permits for new television stations, will be processed at a later date, and that priority will depend upon the number of operating stations in the city, with population a secondary standard of priority.

990. The Commission will publish, from time to time, lists of cities for which application for new television stations falling within the above-mentioned categories are filed, so that the general public and all applicants and other interested parties may be kept informed of the progress of the processing procedure. These lists will be revised periodically to reflect the insertion in the processing lines of new applications, and will show the order on the appropriate processing line of each city for which one or more applications are filed.

991. In order to expedite the procedure with respect to the licensing of new television broadcast stations, applications will be considered for grant only on the specific channel designated therein. Hearings held because of conflicts in channel requests within any city or hyphenated community will be limited to the applicants seeking the same channel. Where two or more applications for new stations in different cities, or applications for changes in existing facilities, are in conflict because the distance between their respective proposed transmitter sites is less than that provided in the rules, they will, of necessity, also be designated for hearing on a competitive basis. It should be particularly noted, because of the fact that some applications will normally be reached for processing before others, that applications whose transmitter sites may conflict with other applications in communities which would be reached for processing at an earlier stage will, in order to receive comparative consideration with such other applications, have to be filed at least one day before Commission action on the other application, or, in the event that the other application has been designated for hearing, 20 days before the designated hearing date. This procedure is identical with that which has been in force heretofore, but is mentioned because the provisions made herein for the staggered order of processing might otherwise give potential applicants an erroneous impression of their rights.

992. The new rules and regulations herein adopted will require substantial amendments in existing applications before they may be considered, and the new footnote to Section 1.371 contains instructions with respect to filing such amendments, as well as with respect to amendments which may be made by new applicants prior to the completion of Commission processing of applications for the city or community involved.

AMENDMENT AND RECODIFICATION OF THE RULES

993. Subpart E of Part 3 of the Commission's Rules governing Television Broadcast Stations has been amended and recodified. The new rules which have been added to the Subpart and the rules which have been revised implement the decisions reached by the Commission in these proceedings. Rules which were inconsistent with the new rules and obsolete rules have been deleted. In addition, the Standards of Good Engineering Practice Concerning Television Broadcast Stations have been amended to reflect the Commission's decisions in these proceedings and have been recodified and made a part of Subpart E. Finally, new Subpart E also contains editorial changes and improvements in and clarification of certain of the language of the existing Rules which make no changes in their substantive requirements.

994. In view of the foregoing, it is ordered that Section 1.371 of Part 1 of the Commission's Rules and Regulations relating to the processing of applications for television broadcast stations is amended as set forth in Appendix C(1) below.

995. In view of the foregoing, it is ordered that FCC Form 301, "Application for Authority to Construct a New Broadcast Station or Make Changes in an Existing Station," is amended as set forth in Appendix C(2) below.

996. In view of the foregoing, it is ordered that the "Standards of Good Engineering Practice Concerning Television Broadcast Stations" are deleted and Subpart E of Part 3 of the Commission's Rules and Regulations, "Rules Governing Television Broadcast Station," is amended as set forth in Appendix D below.

997. The amended Rules and amended FCC Form 301, as set forth in Appendices C and D below, are promulgated pursuant to Sections 1, 4(i) and (j), 301, 303(a), (b), (c), (d), (e), (f), (g), (h) and (r), and 307(b) of the Communications Act of 1934, as amended, and pursuant to the provisions of Section 4 of the Administrative Procedure Act.

998. It is ordered that the above amendments as set forth in Appendices C and D will become effective 30 days from the date of publication in the Federal Register.

FEDERAL COMMUNICATIONS COMMISSION

T. J. Slowie
Secretary

APPENDIX A—Table I

Population Density Per Square Mile by Zones, 1950

	Land Area	Population	Population Per Square Mile
Total United States	2,974,725	150,697,361	50.7
Zone I	329,805	73,250,736	222.1
Zone II	2,405,479	65,999,295	27.4
Zone III	239,441	11,447,330	47.8
ZONE I			
District of Columbia	61	802,178	13,150.5
Rhode Island	1,057	791,896	749.2
New Jersey	7,522	4,835,329	642.8
Massachusetts	7,867	4,690,514	596.2
Connecticut	4,899	2,007,280	409.7
New York (Part)	35,386	14,446,405	408.2
Wisconsin (Part)	5,033	1,512,731	300.6
Michigan (Part)	21,867	5,524,484	252.6
Maryland	9,881	2,343,001	237.1
Pennsylvania	45,045	10,498,012	233.1
Ohio	41,000	7,946,627	193.8
Delaware	1,978	318,085	160.8
Illinois	55,935	8,712,176	155.8
Indiana	36,205	3,934,224	108.7
Virginia (Part)	21,571	2,331,241	108.1
New Hampshire (Part)	4,541	433,519	95.5
West Virginia (Part)	19,363	1,483,938	76.7
Maine (Part)	9,129	586,232	64.2
Vermont (Part)	1,465	52,864	36.1
Total Zone I	329,805	73,250,736	222.1
ZONE II			
West Virginia (Part)	4,717	521,614	110.6
North Carolina	49,097	4,061,929	82.7
Tennessee	41,797	3,291,718	78.8
Alabama (Part)	24,791	1,874,263	75.6
Kentucky	39,864	2,944,806	73.9
Georgia (Part)	40,116	2,819,324	70.3
South Carolina	30,305	2,117,027	69.9
California	156,740	10,586,223	67.5
Louisiana (Part)	9,268	534,181	57.6
Missouri	69,226	3,954,653	57.1
Virginia (Part)	18,322	987,439	53.9
Mississippi (Part)	24,849	1,175,818	47.3
Iowa	56,045	2,621,073	46.8
Vermont (Part)	7,813	324,883	41.6
Wisconsin (Part)	49,672	1,921,844	38.7
Minnesota	80,009	2,982,483	37.3
Arkansas	52,675	1,909,511	36.3
Washington	66,786	2,378,963	35.6
Oklahoma	69,031	2,233,351	32.4
New York (Part)	12,558	383,787	30.6
Michigan (Part)	35,155	847,282	24.1
Kansas	82,108	1,905,299	23.2
New Hampshire (Part)	4,476	99,723	22.3
Texas (Part)	181,281	4,000,334	22.1
Nebraska	76,663	1,325,510	17.3
Oregon	96,315	1,521,341	15.8
Maine (Part)	21,911	327,542	14.9
Colorado	103,922	1,325,089	12.8
North Dakota	70,057	619,636	8.8
South Dakota	76,536	652,740	8.5
Utah	82,346	688,862	8.4
Idaho	82,769	588,637	7.1
Arizona	113,575	749,587	6.6
New Mexico	121,511	681,187	5.6
Montana	145,878	591,024	4.1
Wyoming	97,506	290,529	3.0
Nevada	109,789	160,083	1.5
Total Zone II	2,405,479	65,999,295	27.4
ZONE III			
Louisiana (Part)	35,894	2,149,355	59.9
Florida	54,262	2,771,305	51.5
Alabama (Part)	26,287	1,187,480	45.2
Texas (Part)	82,232	3,710,840	45.1
Mississippi (Part)	22,399	1,003,096	44.8
Georgia (Part)	18,367	625,254	34.0
Total Zone III	239,441	11,447,330	47.8

Source: 1950 U. S. Census of Population.

APPENDIX A—Table II

Number of Cities Over 50,000 and Land Area By Zone and State

Zone or State	1950 Number of Cities Over 50,000	Land Area (Square Miles)
Total United States	232	2,974,725
Zone I	128	329,805
Zone II	86	2,405,479
Zone III	18	239,441
Zone I		
District of Columbia	1	61
Rhode Island	4	1,057
Massachusetts	17	7,867
New Jersey	14	7,522
Connecticut	6	4,899
Wisconsin (Part)	4	5,033
Delaware	1	1,978
Michigan (Part)	9	21,867
Ohio	14	41,000
New York (Part)	12	35,386
Pennsylvania	15	45,045
Indiana	9	36,205
New Hampshire (Part)	1	4,541
Illinois	12	55,935
Virginia (Part)	4	21,571
West Virginia (Part)	3	19,363
Maryland	1	9,881
Maine (Part)	1	9,129
Vermont (Part)		1,465
Total Zone I	128	329,805

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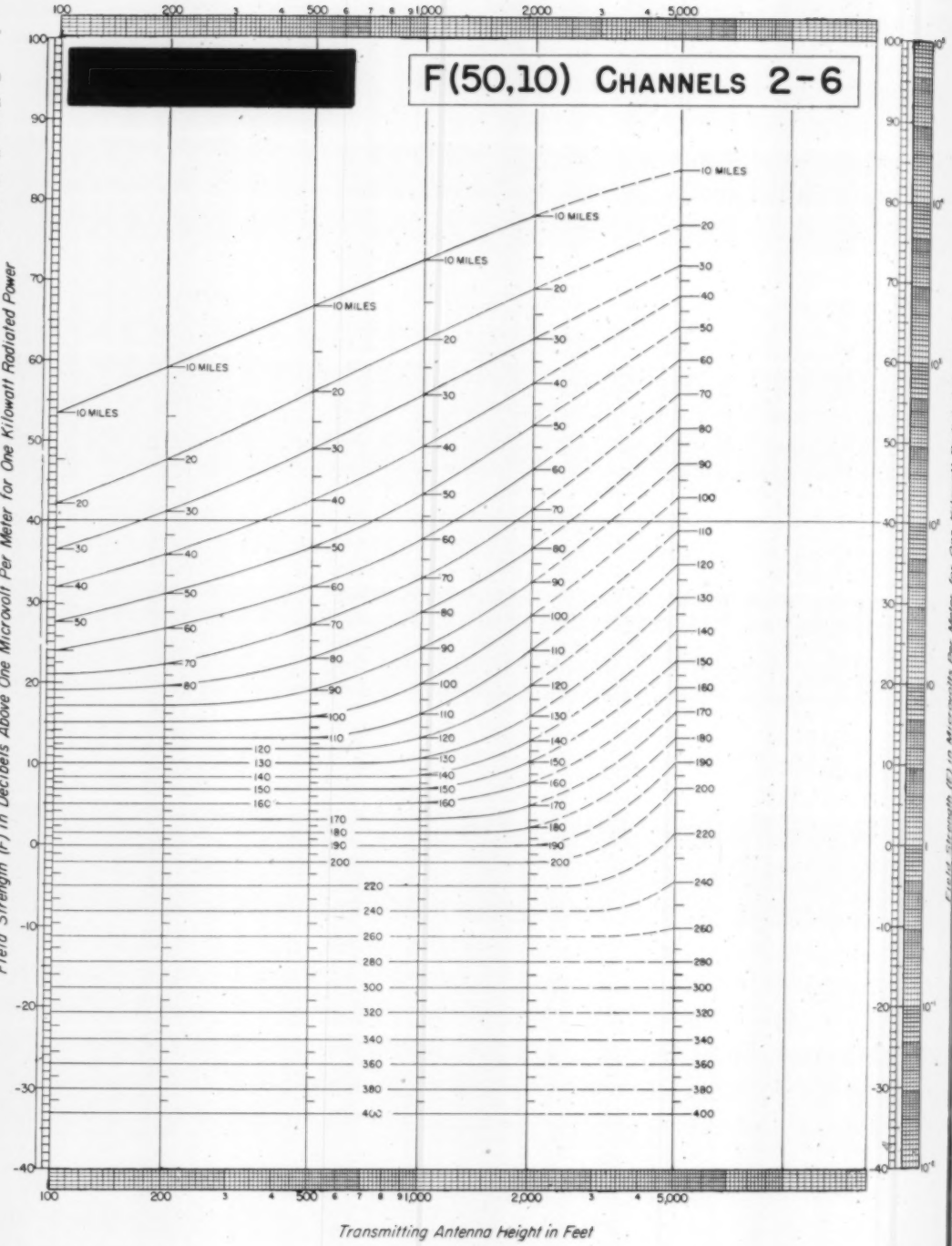
Number of Cities Over 50,000 and Land Area By Zone and State

Zone or State	Number of Cities Over 50,000	Land Area (Square Miles)
	Zone II	
California	20	156,740
Georgia (Part)	5	40,116
North Carolina	6	49,097
Louisiana (Part)	1	9,268
South Carolina	3	30,305
Tennessee	4	41,797
Iowa	5	56,045
Alabama (Part)	2	24,791
Kentucky	3	39,864
Missouri	4	69,226
Virginia (Part)	1	18,322
Washington	3	66,786
Texas (Part)	8	181,281
Minnesota	3	80,009
Kansas	3	82,108
Oklahoma	2	69,031
Michigan (Part)	1	35,155
Nebraska	2	76,663
Utah	2	82,346
Wisconsin (Part)	1	49,672
Colorado	2	103,922
Arkansas	1	52,675
South Dakota	1	76,536
Oregon	1	96,315
Arizona	1	113,575
New Mexico	1	121,511
Idaho	...	82,769
Maine (Part)	...	21,911
Mississippi (Part)	...	24,849
Montana	...	145,878
Nevada	...	109,789
New Hampshire (Part)	...	4,476
New York (Part)	...	12,558
North Dakota	...	70,057
Vermont (Part)	...	7,813
West Virginia (Part)	...	4,717
Wyoming	...	97,506
Total Zone II	86	2,405,479

Number of Cities Over 50,000 and Land Area By Zone and State

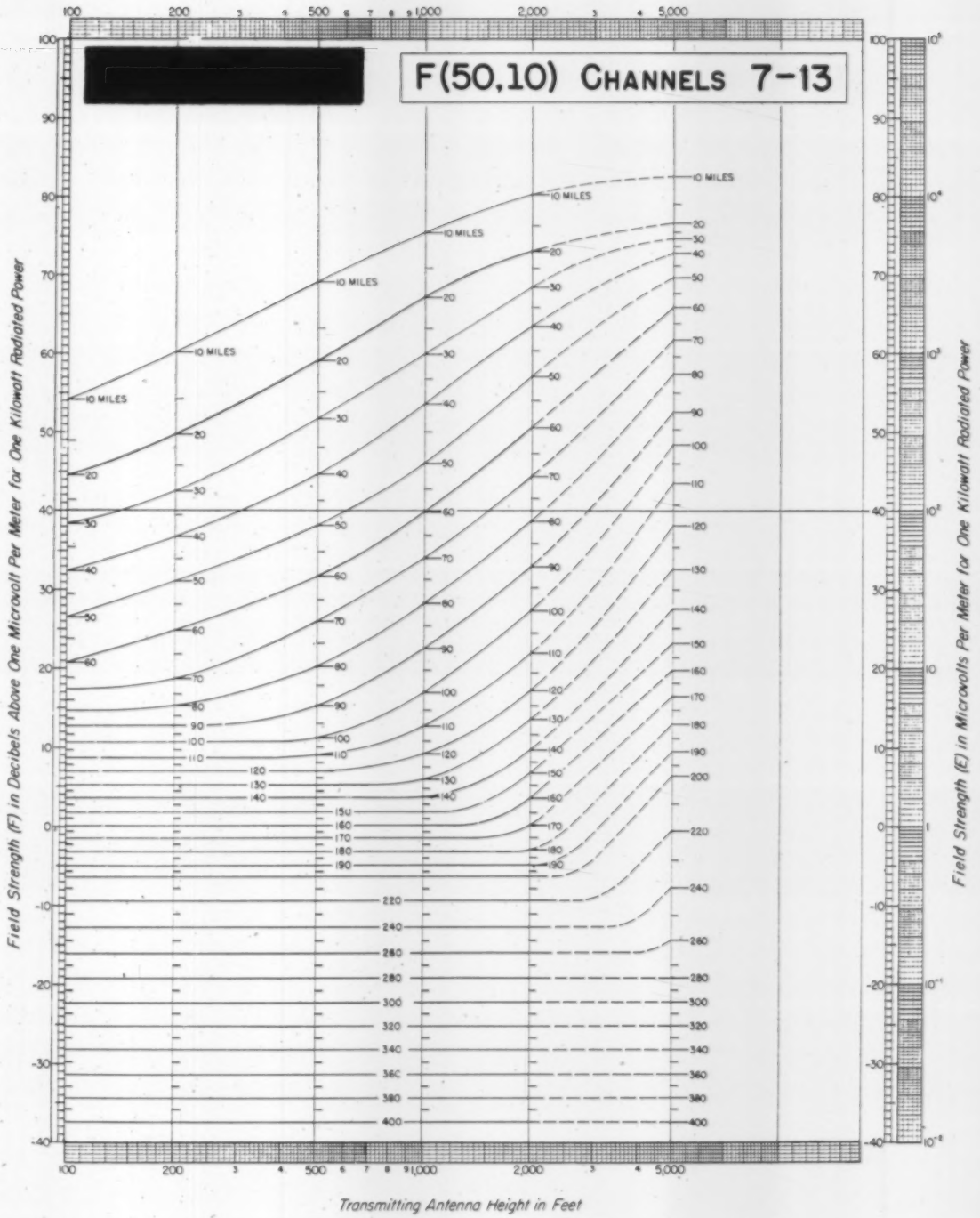
Zone or State	Number of Cities Over 50,000	Land Area (Square Miles)
	Zone III	
Texas (Part)	8	82,232
Florida	5	54,262
Alabama (Part)	2	26,287
Louisiana (Part)	2	35,894
Mississippi (Part)	1	22,399
Georgia (Part)	0	18,367
Total Zone III	18	239,441

Source: 1950 U. S. Census of Population


F(50,10) CHANNELS 2-6
Field Strength (F) in Decibels Above One Microvolt Per Meter for One Kilowatt Radiated Power
Transmitting Antenna Height in Feet
10 MILES

TELEVISION CHANNELS 2-6
ESTIMATED FIELD STRENGTH EXCEEDED AT 50 PERCENT OF THE POTENTIAL RECEIVER LOCATIONS FOR AT LEAST 10 PERCENT OF THE TIME AT A RECEIVING ANTENNA HEIGHT OF 30 FEET

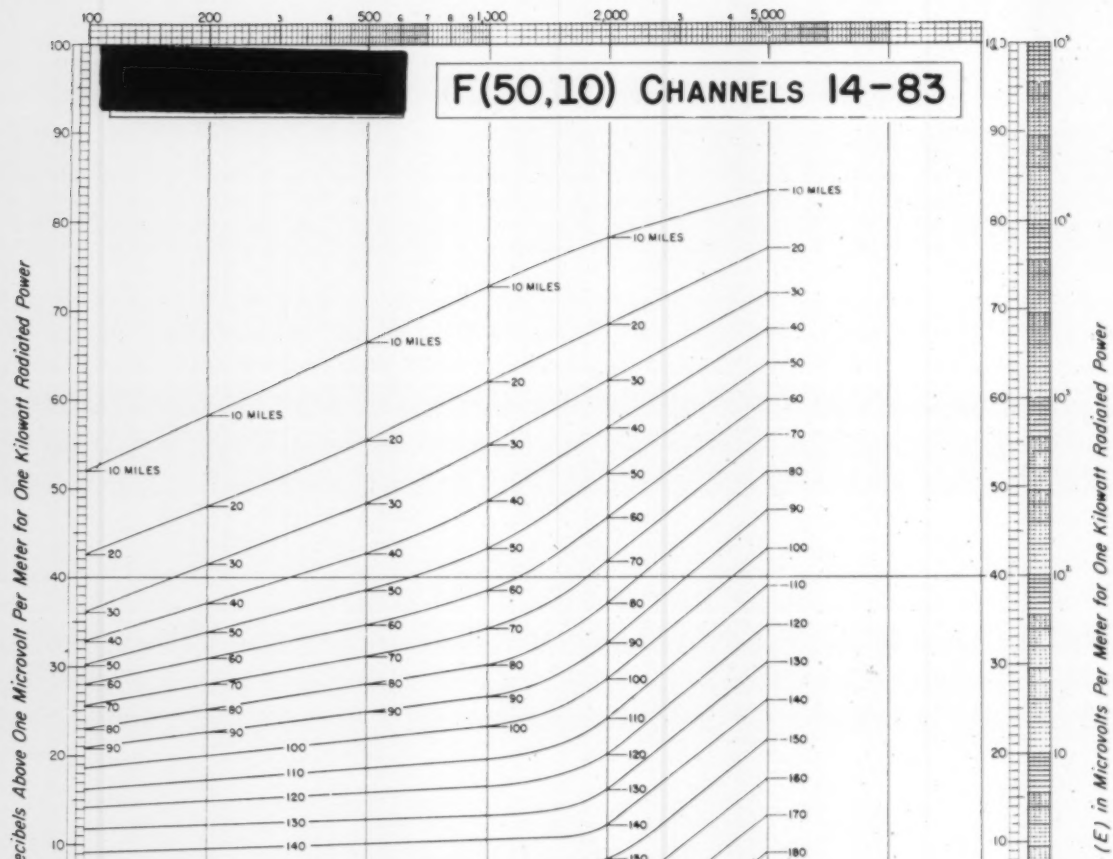
APPENDIX B FIGURE 1



TELEVISION CHANNELS 7-13

ESTIMATED FIELD STRENGTH EXCEEDED AT 50 PERCENT OF THE POTENTIAL RECEIVER LOCATIONS FOR AT LEAST 10 PERCENT OF THE TIME AT A RECEIVING ANTENNA HEIGHT OF 30 FEET

FIGURE 2



TELEVISION CHANNELS 14-83

ESTIMATED FIELD STRENGTH EXCEEDED AT 50 PERCENT OF THE POTENTIAL RECEIVER LOCATIONS FOR AT LEAST 10 PERCENT OF THE TIME AT A RECEIVING ANTENNA HEIGHT OF 30 FEET

FIGURE 3

APPENDIX C(1)

Section 1.371 of the Commission's Rules is amended by deleting footnote 10 from the heading thereto and substituting new footnote 10 reading as follows:

"Temporary Processing Procedure for Television Broadcast Applications

Until further order of the Commission, the following temporary procedures shall apply with respect to applications for permits to construct new television broadcast stations, applications for permits and modifications thereof relating to operating television stations and to stations authorized after April 14, 1952, applications for licenses and modifications thereof, and to petitions specified below. The term "operating television station" means a television broadcast station for which a construction permit or license was issued prior to April 14, 1952.

(a) Applications accepted for filing which request the television authorizations described above will be separated into the following groups:

Group A—(1) applications filed pursuant to final determinations reached by the Commission on its proposals to change channel assignments of 31 operating television stations as set forth in paragraphs "8" and "9" of the Commission's "Third Notice of Further Proposed Rule Making" issued on March 22, 1951, (FCC 51-244) in Docket Nos. 8736 et al.; and (2) applications for new television stations on channels in cities located 40 or more miles from the main transmitter in use of the nearest operating television station.

Group B—(1) applications for new television stations on channels in cities which are located less than 40 miles from the main transmitter in use of one or more operating television stations and to which cities only UHF channels are assigned in the Commission's Table of Assignments (excluding non - commercial educational VHF channels); (2) applications for new television stations on channels in cities in which there are one or more operating television stations and in which cities all the VHF channels (excluding non-commercial educational channels) have been authorized and only UHF channels are available for authorization; (3) applications for new television stations on channels in cities in which there are no operating television stations and which are located less than 40 miles from the main transmitter in use of not more than one operating television station; (4) applications for new television stations or channels in cities in which there is only one operating television station and which are located 40 or more miles from the main transmitter in use of any other operating television station; and (5) applications for new television stations on channels in cities which are located less than 40 miles from the main transmitters in use of two or more operating television stations.

Group C—(1) applications to modify construction permits granted on and after July 1, 1952; (2) petitions for reconsideration of actions taken by the Commission with respect to Group A(2) and Group B applications; and (3) petitions for waiver of hearings on such applications under Section 1.391 of the Commission's Rules.

Group D—(1) applications for changes in existing facilities filed prior to April 14, 1952, by licensees and permittees of operating television stations, which applications were placed in the Commission's pending file pursuant to the provisions of the Commission's "freeze" order of September 30, 1948; (2) all other applications for changes in existing facilities filed on and after April 14, 1952, by licensees and permittees of operating television stations; and (3) all applications for television broadcast station licenses filed on and after April 14, 1952. Applications, and requests for Special Temporary Authority and extensions thereof submitted pursuant to the provisions of the Commission's Fifth Report and Order (FCC 51-752) in Dockets 8736 et al., are excluded from Group D.

(b) In computing the distances specified in Group A(2) and Group B, the geographical coordinates listed in Special Publication No. 238 of the U.S. Department of Commerce (entitled "Airline Distances Between Cities in the United States") shall be used as the reference point for the city under consideration, and the geographical coordinates on file with the Commission of the nearest operating television station shall be used as the other reference point. The computation of distance shall be made in accordance with the method set forth in Section 3.611 of the Commission's Rules. Where the city under consideration is not listed in the above Publication, the geographical coordinates of the main post office of that city (determined to the nearest second) shall be used as the reference point. Where an application requests a station in a city not listed in the Table of Assignments but said city is within 15 miles of a city so listed (Section 3.607(b) of the Rules), the point of measurement shall be the listed city. Where an application requests a station in a city which is one of two or more cities listed in combination in the Table of Assignments, i.e., "San Francisco-Oakland", the point of measurement shall be the geographical coordinates of the city farthest removed from the nearest operating television station(s). Where one combination city receives less service than the other, the lesser served city shall determine the group in which they fall.

(c) Group A(1) applications filed prior to July 1, 1952, and which are in a position to be acted on by the Commission will be processed promptly after the effective date of Subpart E of Part 3 of the Commission's Rules. On July 1, 1952, the Commission will commence processing pending Group A(1) applications not theretofore processed. When processing of these applications has been completed, the Commission will establish two processing lines, one for Group A(2) applications and the other for the Group B applications, and will commence processing both Groups simultaneously. Group C applications and petitions will be acted upon as filed and a separate processing line will be established for such requests. Processing of Group D applications will not be commenced before November 1, 1952. At the earliest practicable date, the Commission will issue an announcement concerning the processing of Group D applications.

(d) Applications for new television stations which are filed on and after July 1, 1952, will be placed in their respective Groups and will be processed in accordance with the priorities set forth in subparagraph "(e)" below. Group A(1) applications containing requests which fall in Group D will be considered in their entirety as Group A(1) applications.

(e) Within each Group, priority in processing will follow the order in which the Group is subdivided, as follows:

(1) Priority in processing applications in Group A (1) will be determined on the basis of the factual situation existing in each case, taking into consideration such factors as the particular problems presented by such applications and the dependence of certain applications on prior action to be taken by the Commission with respect to other applications in the same group.

(2) Priority in processing Group A (2) applications will be based on the population (1950 Census) of the city for which an application has been filed, i.e., applications in the city having the largest population will be processed first; applications in the next largest city will be processed second, and so on until all cities have been completed.

(3) Priority in processing Group B (1) applications will be based on the number of services (stations less than 40 miles away) being received in the city for which an application has been filed and the population (1950 Census) of that city. Thus, cities receiving one service will be processed first; cities receiving two services will be processed second, and so on. The cities will be arranged so that in each priority group the city with the largest population will be processed first, and so on. Priority in processing Group B (2) applications will be based on the number of operating television stations in the city for which an application has been filed and the population (1950 Census) of that city. Thus, cities with one television station will be processed first; cities with two television stations will be processed second, and so on. The cities will be arranged so that in each priority group the city with the largest population will be processed first, and so on. Priority in processing Group B (3) and Group B (4) applications will be based on the population (1950 Census) of the city for which an application has been filed, i.e., applications in the city having the largest population will be processed first; applications in the next largest city will be processed second, and so on until all cities in each group have been completed. Priority in processing applications in Group B (5) will be based on the number of operating television stations in the applicant's city. Thus, applications in a city which receives two or more television services but has no local operating television station will be processed first; if it has one local station, it will be processed second, and so on. The cities will be arranged so that in each priority group the city with the largest population (1950 Census) will be processed first, and so on.

(4) Where cities in Group A (2) and Group B are listed in the Table of Assignments in combination, the total population of both cities shall be considered for the purposes of this subparagraph. Where an application requests a station in a city not listed in the Table but said city is within 15 miles of a city so listed, priority will be based on the population of the listed city only.

(5) Group C applications and petitions will be processed in the order in which they are accepted for filing. Where the number of such requests requires a determination as to which shall be processed first, priority in processing will parallel the priorities provided for above for the respective cities for which applications have been filed.

(6) Priority in processing applications in Group D will be based on the number of operating television stations in the applicant's city and the population of each city. Thus, applications in cities in which the respective applicants operate the only television stations in those cities will be processed first; two station cities will be processed second, and so on. The cities will be arranged so that in the first priority group, the city with the largest population (1950 Census) will be processed first, and so on.

(7) Where applications in Groups A, B and D are mutually exclusive because the distance between their respective proposed transmitter sites is contrary to the station separation requirements set forth in Section 3.610 of the Commission's Rules, said applications will be designated for hearing at the time the application with the higher priority is processed. If the question concerning transmitter sites is resolved before a decision is rendered in the matter, the application with the lower priority will be returned to its appropriate place on the processing line. In order to be considered mutually exclusive with a higher priority application, the lower priority application must have been accepted for filing and must be in compliance with the provisions of paragraph (j) herein at least one day before the higher priority application has been acted upon by the Commission. If the higher priorities application is in hearing status at the time the lower priority application is accepted for filing, the 20-day cut-off date specified in Section 1.387(b)(3) will be applicable.

(f) As soon after July 1, 1952, as is practicable, the Commission will make public the list of cities

for which applications have been filed falling in Group A (2) and Group B based on the priorities set forth above. From time to time, the Commission will issue revisions of these lists so that interested parties may be fully informed of the progress of the Group A (2) and Group B processing lines. Provision for the publication of the Group D list will be announced at a later date.

(g) The foregoing priority procedures shall not be applicable to non-commercial educational television stations, except where an application for such a station is mutually exclusive with a Group A, B or D application. Applications for non-commercial educational television stations will be separately processed, beginning July 1, 1952, in the order in which they are accepted for filing.

(h) On and after July 1, 1952, applications for television stations in Puerto Rico, Alaska, Hawaiian Island and Virgin Islands will be separately processed in the order in which they are accepted for filing.

(i) An application for a new television broadcast station must request a specific channel provided for in the Commission's Table of Assignments for the city in which the applicant proposes to construct his station. Regardless of the number of applications filed for channels in a city or the number of assignments available in that city, those applications which are mutually exclusive, i.e., which request the same channel, will be designated for hearing. All other applications for channels will, if the applicants are duly qualified, receive grants. For example, if Channels 6, 13, 47 and 53 have been assigned to City X and there are pending two applications for Channel 6, and one application for each of the remaining channels, the latter three applications will be considered for grants without hearing and the two mutually exclusive applications requesting Channel 6 will be designated for hearing. If there are two pending applications for Channel 6 and two applications for Channel 13, separate hearings will be held.

(j) Applications for new television stations which were designated for hearing prior to April 14, 1952, and on which final action has not been taken by the Commission are, by order in each docket, being removed from hearing status. Said applications and all other applications for construction permits for television broadcast stations which were filed prior to April 14, 1952, shall be amended by the filing of a new and complete FCC Form 301 as revised April 14, 1952. In preparing such forms, applicants shall set forth complete answers to all questions contained therein and shall submit new and complete exhibits, data and other attachments. Applicants may not answer questions or submit exhibits, data and attachments by cross-reference to other applications or documents on file with the Commission except where proposed exhibits, data and attachments are not obtainable without undergoing undue hardship. In such instances, cross-reference must be specific and shall include the file number, page and paragraph of the application and amendment referred to, the number of the exhibit, and a description thereof. Applicants shall not cross-reference by using such phrasing as "on file," "previously filed" or similar phraseology. Applications which have not been amended by the filing of a completed FCC Form 301, or which fail to comply with the above requirements by the time they are reached for processing, will be dismissed.

(k) Except with respect to Group A (1) applications, an application by a licensee or permittee of a television broadcast station which seeks to modify an outstanding license or permit to specify a channel other than that authorized in said license or permit will not be accepted for filing by the Commission.

The following pages of FCC Form 301 (Revised 3-21-52) supersede page 1 of Section I, pages 1, 2 and 3 of Section V-C, and Section V-G (Antenna) of FCC Form-301 (revised 6-16-48), and are to be substituted for the superseded pages in all applications filed with the Commission in April, May and June, 1952. The new pages are identified in the lower right hand corner by the date 6-30-52. A complete reprinting of the Form 301 incorporating these pages is in progress. After it becomes available the pages identified by the date 6-30-52 will no longer be used.

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FCC Form 301
Section I

Form Approved
Budget Bureau No. 52-R014.10

United States of America
Federal Communications Commission

APPLICATION FOR AUTHORITY TO CONSTRUCT A NEW BROADCAST STATION OR MAKE CHANGES IN AN EXISTING BROADCAST STATION
(Revised 3-21-52)

INSTRUCTIONS

A. This form is to be used in applying for authority to construct a new AM (standard), commercial FM (frequency modulation), or commercial television broadcast station, or to make changes in existing commercial broadcast stations. This form consists of this part, Section I, and the following sections:

Section II, Legal Qualifications of Broadcast Applicant

Section III, Financial Qualifications of Broadcast Applicant

Section IV, Statement of Program Service of Broadcast Applicant

Section V-A, Standard Broadcast Engineering Data

Section V-B, FM Broadcast Engineering Data

Section V-C, Television Broadcast Engineering Data

Section V-G, Antenna and Site Information

B. Prepare three copies of this form and all exhibits. Swear to one copy of Section I. Prepare two additional copies (a total of five) of Section V-G and associated exhibits. File all the above with Federal Communications Commission, Washington 25, D. C.

C. Number exhibits serially in the space provided in the body of the form and list each exhibit in the space provided on the back of this sheet. Show date of preparation of each exhibit, antenna pattern, and map, and show date when each photograph was taken.

D. The name of the applicant stated in Section I hereof shall be the exact corporate name, if a corporation; if a partnership, the names of all partners and the name under which the partnership does business; if an unincorporated association, the name of an executive officer, his office; and the name of the association. In other Sections of the form the name need be only sufficient for identification of the applicant.

E. Information called for by this application which is already on file with the Commission (except that called for in Section V-G) need not be refiled in this application provided (1) the information is now on file in another application or FCC form filed by or on behalf of this applicant; (2) the information is identified fully by reference to the file number (if any), the FCC form number, and the filing date of the application or other form containing the information and the page of paragraph referred to, and (3) after making the reference, the applicant states: "No change since date of filing." Any such reference will be considered to incorporate into this application all information, confidential or otherwise, contained in the application or other form referred to. The incorporated application or other form will thereafter, in its entirety, be open to the public.

F. This application must be executed by applicant, if an individual; by a partner of applicant, if a partnership; by an officer of applicant, if a corporation or association; or by attorney of applicant only under conditions shown in Section 1.303, Rules Relating to Organization and Practice and Procedure, in which event satisfactory evidence of disability of applicant or his absence from the Continental United States and authority of attorney to act must be submitted with application.

G. Before filling out this application, the applicant should familiarize himself with the Communications Act of 1934, as amended, Parts 1, 2, 3 and 17 of the Commission's Rules and Regulations and the Standards of Good Engineering Practice.

H. BE SURE ALL NECESSARY INFORMATION IS FURNISHED AND ALL PARAGRAPHS ARE FULLY ANSWERED. IF ANY PORTIONS OF THE APPLICATION ARE NOT APPLICABLE, SPECIFICALLY SO STATE. DEFECTIVE OR INCOMPLETE APPLICATIONS MAY BE RETURNED WITHOUT CONSIDERATION.

File No.

Name and post office address of applicant (See Instruction D)

Send notices and communications to the following-named person at the post office address indicated

1. Requested facilities

Frequency	Channel No.	Power in kilowatts: Night	Power in kilowatts: Day	Minimum hours operation daily

Hours of operation

Unlimited ☐	Sharing with (Specify Stations)	Other (Specify)
Daytime only ☐		
Limited ☐		

Type of station (as Standard, FM, Television)

Location of main studio

City	State

2. If authority to make changes in an existing station is requested

a. Present facilities

Frequency	Call	Channel No.	Power in kilowatts: Night	Power in kilowatts: Day	Minimum hours operation daily

Hours of operation

Unlimited ☐	Sharing with (Specify Stations)	Other (Specify)
Daytime only ☐		
Limited ☐		

Location of main studio

City	State

b. If this application is for changes in an existing authorization, complete Section I and any other sections necessary to show all substantial changes in information filed with the Commission in prior applications or reports. In the spaces below check Sections submitted herewith and as to Sections not submitted herewith refer to the prior application or report containing the requested information in accordance with Instruction E. (If contemplated expenditures are less than $1,000, do not complete Section III. Section IV not required for applications for minor changes not involving change in power, change in frequency, change in hours of operation, or moving from city to city.)

Section No.	Para. No.	Reference (File or Form No. and Date)
☐ Section II		
☐ Section III		
☐ Section IV		
☐ Section V		

Have there been any substantial changes in the information incorporated in this application by reference in this paragraph? Yes ☐ No ☐

3. If this application is contingent on the grant of another pending application, state name of other applicant and file number of other application.

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Broadcast Application	FEDERAL COMMUNICATIONS COMMISSION	Section V-C
TELEVISION BROADCAST ENGINEERING DATA	Name of applicant	

1. Purpose of authorization applied for: (Indicate by check mark)

(If application is for a new station or for any of the changes numbered B through E, complete all paragraphs of this form; if change F is of a character which will change coverage or increase the overall height of the antenna structure more than 20 feet, answer all paragraphs, otherwise complete only paragraphs 2 and 3 and the appropriate other paragraphs; for changes G through I, complete only paragraph 2 and the appropriate other paragraphs; for change J, complete only paragraphs 2 and 16)

A. ☐ Construct a new station
B. ☐ Change effective radiated power or antenna height above average terrain
C. ☐ Change transmitter location
D. ☐ Change frequency
E. ☐ Approval of site and antenna
F. ☐ Change antenna system
G. ☐ Change transmitter
H. ☐ Install auxiliary or alternate main transmitter
I. ☐ Other changes (specify)
J. ☐ Change studio location

2. Facilities requested

Frequency	Channel number
_____ — _____ Mc.	

Effective Radiated Power (visual)	Antenna height above average terrain in feet. (Must agree with height given in Para. 12 of this Section)
In dbk:	
In kw:	

3. (a) Antenna structure

Is the proposed construction in the immediate vicinity or does it serve to modify the construction of any standard broadcast station, FM broadcast station, television broadcast station, or other class of radio station? If "Yes", attach as Exhibit No. complete engineering data thereon. Yes ☐ No ☐

Will proposed structure be constructed on the top of an existing structure? If "Yes", describe and give height above ground of existing structure. Yes ☐ No ☐

Overall height in feet above ground. (Do not include the height of any obstruction lighting which may be required.)	Overall height in feet above mean sea level. (Do not include the height of any obstruction lighting which may be required.)

Height of antenna radiation center in feet above mean sea level.

(b) Antenna data

Visual

Make	Type No.

Number of sections	Power gain in db

Aural (if separate)

Make	Type No.

Number of sections	Power gain in db

Is directional antenna proposed? Yes ☐ No ☐

If "Yes", attach as Exhibit No. complete engineering data thereon.

4. Transmitters

(a) Visual

Make	Type No.	Rated power In dbk: In kw:

(b) Aural

Make	Type No.	Rated power In dbk: In kw:

If the above transmitters are composite or of types for which data have not been filed with the F.C.C., attach as Exhibit No. a complete showing of transmitter details in accordance with the Commission's Rules. The showing should include schematic diagrams, makes and types of tubes, operating constants of the last radio stages, full details of frequency control, vestigial sideband filter (if used), multiplex networks and isolation networks. If changes are to be made in a licensed transmitter, include a schematic diagram and give full details of the changes.

(c) Describe in Exhibit No. means which will be used for determining and maintaining power output of the transmitters to the values specified in this application.

5. Modulation monitors

(a) Visual monitor or monitoring equipment

Make	Type No.

(b) Aural monitor

Make	Type No.

6. Frequency monitors

(a) Visual monitor

Make	Type No.	Accuracy

(b) Aural monitor

Make	Type No.	Accuracy

7. If the above monitors or monitoring equipment have not been approved by the F.C.C., include as Exhibit No. a brief technical description of each.

8. Transmission line proposed to supply power to the antenna from the transmitter

(a) Visual

Make	Type No.	Description

Size (nominal inside transverse dimensions) in inches	Length in feet	Power loss in db for this length

6-30-52

8. Transmission line (Continued)

(b) Aural (if separate)

Make	Type No.	Description

Size (nominal inside transverse dimension) in inches	Length in feet	Power loss in db for this length

9. Proposed operation

(a) Visual

Transmitter power output (after vestigial sideband filter, if used) In dbk: In kw:	Multiplexer loss in db:	Input to transmission line in dbk:

Transmission line power loss in db:	Antenna input power in dbk:	Antenna power gain in db:	Effective radiated power In dbk: In kw:

(b) Aural

Transmitter power output In dbk: In kw:	Multiplexer loss in db:	Input to transmission line in dbk:

Transmission line power loss in db:	Antenna input power in dbk:	Antenna power gain in db:	Effective radiated power In dbk: In kw:

10. Will the studios, cameras, microphones, and other equipment proposed for transmission of programs be designed for compliance with the Commission's Rules? Yes ☐ No ☐

11. (a) Attach as Exhibit No. a map(s) (topographic where obtainable, such as U. S. Geological Survey quadrangles) for the area within 15 miles of the proposed transmitter location and show drawn thereon the following data:

1. Proposed transmitter location--accurately plotted;
2. Transmitter location and call letters of all known radio stations (except amateur) and the location of known commercial and government receiving stations within 2 miles of the proposed transmitter location;
3. Proposed location of main studio;
4. Character of the area within 2 miles of proposed transmitter location, suitably designated as to residential, business, industrial, and rural nature;
5. At least eight radials each extending to a distance of ten or more miles from the proposed transmitter location, one or more of which must extend through the principal city or cities to be served.

(b) Attach as Exhibit No. profile graphs with reasonably large scales for the radials in (a)(5) above. Each graph shall show the elevation of the antenna radiation center. Identify each graph by its bearing from the proposed transmitter location. Direction of true north shall be zero azimuth, with angles measured clockwise. Show source of topographical data on each.

12. From the profile graphs in 11(b), for the eight mile distance between two and ten miles from the proposed transmitter location, and in accordance with the procedure prescribed in the Commission's Rules, supply the following tabulation of data: (Grade A and Grade B contours are those in the absence of interference.)

Radial bearing (degrees true)	Average elevation of radial (2-10 mi.) in feet above mean sea level	Height in feet of antenna radiation center above average elevation of radial (2-10 mi.)	Effective radiated power in radial direction	Predicted distance in miles to the Grade A contour	Predicted distance in miles to the Grade B contour
____ °	____ feet	____ feet	____ dbk	____ mi.	____ mi.

Antenna height above average terrain _____ feet (Must be identical with Paragraph 2)

13. Attach as Exhibit No. map(s) (Sectional Aeronautical charts where obtainable, preferably without aeronautical overlay) of the area proposed to be served and shown drawn thereon:

(a) Proposed transmitter location and the radials along which the profile graphs have been prepared;

(b) The predicted Grade A and Grade B contours from 12 above;

(c) Scale of miles.

14. Attach as Exhibit No. a sufficient number of aerial photographs taken in clear weather at appropriate altitudes and angles to show the nature of the surrounding terrain in the vicinity of the proposed transmitter site. The photographs must be marked so as to show compass directions. Photographs taken in eight different directions from an elevated position on the ground will be acceptable in lieu of the aerial photographs if the area can be clearly shown. Give date photographs were taken.

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Broadcast Application	TELEVISION BROADCAST ENGINEERING DATA	Section V-C, Page 3

15. Proposed location of transmitter

State	County	Geographical coordinates (to be determined to nearest second) of the proposed TV antenna structure.	
City or town	Street address	North latitude ° ' "	West longitude ° ' "
How were coordinates determined?			

16. Proposed location of main studio

State	County	Other studios proposed
City or town	Street address	

17. State the minimum value of field strength in dbu, predicted in accordance with the method prescribed in the Commission's Rules, that will be provided over the entire city in which the main studio is located.

18. (a) Does the proposed transmitter location comply with the minimum separation requirements of the Commission's Rules? Yes ☐ No ☐

(b) If any co-channel separations are proposed that are less than the applicable minimum separation requirement plus 20 miles, or if other channel separations are proposed that are less than the applicable minimum separations plus 10 miles, list such separations below. (Include existing stations, proposed stations and assignments; the location and geographical coordinates of each antenna; the distance to each from the proposed transmitter location; and the method used in each instance to measure the distance.) If none, so state.

I certify that I am the Technical Director, Chief Engineer, or Consulting Engineer of the radio station for which this application is submitted and that I have examined the foregoing statement of technical information and that it is true to the best of my knowledge and belief. (This signature may be omitted provided the engineer's original signed report of the data from which the information contained herein has been obtained is attached hereto.)

Date _____ _____

Technical Director, Chief Engineer or Consulting Engineer

6-30-52

Broadcast Application	FEDERAL COMMUNICATIONS COMMISSION	Section V-G (Antenna)
ANTENNA AND SITE INFORMATION (see instruction B Section I)	Name of applicant Address where applicant can be reached in person	

Since this Section is submitted to the Regional Airspace Subcommittee of the Air Coordinating Committee for clearance in connection with obstructions to air navigation, it is necessary that all the data called for be supplied. Previously and separately filed data must not be incorporated by reference.

Legal Counsel

Address

Consulting Engineer

Address

Class of station | Facilities requested

Purpose of application (Check appropriate box)

a. New antenna construction ☐
b. Alteration of existing antenna structures ☐
c. Change in location ☐

1. Location of antenna

State | County | City or Town

Exact antenna location (street address) (If outside city limits, give distance and direction from, and name of nearest town)

Geographic coordinates (to be determined to nearest second. For directional antenna give coordinates of center of array.) For single vertical radiator give tower location.

North latitude ° ' " | West longitude ° ' "

2. Features of surrounding terrain

List any natural formations or existing man-made structures (hills, trees, water tanks, towers, etc.) which, in the opinion of the applicant, would tend to shield the antenna from aircraft and thereby minimize the aeronautical hazard of the antenna.

Submit as Exhibit No. a chart on which is plotted the exact location of the antenna site, and also the relative location of the natural formations and/or the existing man-made structures listed above.
The chart used shall be an Instrument Approach Chart (or the landing chart on reverse side thereof), or a Sectional Aeronautical Chart, choice depending upon proximity of the antenna site to landing areas. 1/ In general, the Sectional Aeronautical Chart should be used only when the antenna site is more than 10 miles from a landing area or when an Instrument Approach Chart is unobtainable. 1/ These charts may be purchased from the U. S. Coast and Geodetic Survey, Washington 25, D. C.
1/ Exception - Where the proposed antenna site is within the boundary of a landing area for which no Instrument Approach Chart is available, submit a self-made, large scale map showing antenna site, runway(s) and existing man-made structures listed above.

3. Designation, distance, and bearing to center line of nearest established airway within 5 miles

4. List all landing areas within 10 miles of antenna site. Give distance and direction to the nearest boundary of each landing area from the antenna site.

	Landing Area	Distance	Direction
(a)			
(b)			
(c)			

5. Description of antenna system (If directional, give spacing and orientation of towers).

Type

Description of tower(s)

Self-supporting	Guyed			Tubular (Pole)		
Tower (height figures should not include obstruction lighting)	#1	#2	#3	#4	#5	#6
Height of radiating elements						
Overall height above ground						
Overall height above mean sea level						

If a combination of Standard, FM, or TV operation is proposed on the same multi-element array (either existing or proposed) submit as Exhibit No. a horizontal plan for the proposed antenna system, giving heights of the elements above ground and showing their orientation and spacing in feet. Clearly indicate if any towers are existing.

Submit as Exhibit No. a vertical plan sketch for the proposed total structure (including supporting building if any) giving heights above ground in feet for all significant features. Clearly indicate existing portions, noting painting and lighting.

Is the proposed antenna system designed so that obstruction lights may be installed and maintained at the uppermost point(s)? Yes ☐ No ☐

6. Is the proposed site the same or immediately adjoining the transmitter-antenna site of other stations authorized by the Commission or specified in another application pending before the Commission? Yes ☐ No ☐

If the answer is "Yes", give

Call letters | File numbers

Date _____

_____
Signature of Engineer preparing data

F.C.C. - Washington, D. C. 6-30-52

Broadcast Application	FEDERAL COMMUNICATIONS COMMISSION	Section V-G (Antenna)

ANTENNA AND SITE INFORMATION (see instruction B Section I)	Name of applicant Address where applicant can be reached in person	

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Legal Counsel

Address

Consulting Engineer

Address

Class of station	Facilities requested

Purpose of application (Check appropriate box)

a. New antenna construction ☐
b. Alteration of existing antenna structures ☐
c. Change in location ☐

2. Features of surrounding terrain

List any natural formations or existing man-made structures (hills, trees, water tanks, towers, etc.) which, in the opinion of the applicant, would tend to shield the antenna from aircraft and thereby minimize the aeronautical hazard of the antenna.

1. Location of antenna

State	County	City or Town

Exact antenna location (street address) (If outside city limits, give distance and direction from, and name of nearest town)

Geographic coordinates (to be determined to nearest second. For directional antenna give coordinates of center of array.) For single vertical radiator give tower location.

North latitude	West longitude
0 ' "	0 ' "

Submit as Exhibit No. a chart on which is plotted the exact location of the antenna site, and also the relative location of the natural formations and/or the existing man-made structures listed above.
The chart used shall be an Instrument Approach Chart (or the landing chart on reverse side thereof), or a Sectional Aeronautical Chart, choice depending upon proximity of the antenna site to landing areas. 1/ In general, the Sectional Aeronautical Chart should be used only when the antenna site is more than 10 miles from a landing area or when an Instrument Approach Chart is unobtainable. 1/ These charts may be purchased from the U. S. Coast and Geodetic Survey, Washington 25, D. C.
1/ Exception - Where the proposed antenna site is within the boundary of a landing area for which no Instrument Approach Chart is available, submit a self-made, large scale map showing antenna site, runway(s) and existing man-made structures listed above.

3. Designation, distance, and bearing to center line of nearest established airway within 5 miles

4. List all landing areas within 10 miles of antenna site. Give distance and direction to the nearest boundary of each landing area from the antenna site.

	Landing Area	Distance	Direction
(a)			
(b)			
(c)			

5. Description of antenna system (If directional, give spacing and orientation of towers).

Type

Description of tower(s)

Self-supporting	Guyed			Tubular (Pole)		
Tower (height figures should not include obstruction lighting)	#1	#2	#3	#4	#5	#6
Height of radiating elements						
Overall height above ground						
Overall height above mean sea level						

If a combination of Standard, FM, or TV operation is proposed on the same multi-element array (either existing or proposed) submit as Exhibit No. a horizontal plan for the proposed antenna system, giving heights of the elements above ground and showing their orientation and spacing in feet. Clearly indicate if any towers are existing.

Submit as Exhibit No. a vertical plan sketch for the proposed total structure (including supporting building if any) giving heights above ground in feet for all significant features. Clearly indicate existing portions, noting painting and lighting.

Is the proposed antenna system designed so that obstruction lights may be installed and maintained at the uppermost point(s)? Yes ☐ No ☐

6. Is the proposed site the same or immediately adjoining the transmitter-antenna site of other stations authorized by the Commission or specified in another application pending before the Commission? Yes ☐ No ☐

If the answer is "Yes", give

Call letters	File numbers

Date _____

_____
Signature of Engineer preparing data

F.C.C. - Washington, D. C. 6-30-52

APPENDIX D

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Cross-Reference to Recodification

Subpart E of Part 3

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3.618	3.630
3.619	3.633
3.620	3.361
3.621	3.632
3.622	3.624
3.623	3.634
3.631	3.658 (a)
3.632	3.658 (b)
3.633	3.658 (c)
3.634	3.658 (d)
3.635	3.658 (e)
3.636	3.658 (f)
3.637	3.658 (g)
3.638	3.658 (h)
3.639	3.635
3.640	Revised. 3.636
3.641	3.659
3.651	Deleted. See 3.689
3.652	Revised. 3.687 (c)
3.653 (a)	Revised. 3.687 (b) (7) and (a) (7)
3.653 (b) and (c)	Revised. 3.687 (c)
3.654	Deleted. See 3.681 et seq.
3.655	3.638
3.656	3.637
3.657	3.639
3.658	3.688 (a) and (f)
3.661	Revised. 3.651
3.662	3.666
3.663	3.665
3.664	3.660
3.665	3.661
3.666	Deleted. See 3.689
3.667	3.687 (b) (7)
3.668	Revised. 3.687 (c) (1)
3.669	3.662 (Revised as per Section 17.29)
3.670	3.667
3.681	Revised. 3.663 (Revised also as per Section 17.30)
3.682	3.664 (a)
3.683	3.664 (b)
3.684	3.664 (c)
3.685	3.664 (d)
3.686	3.664 (e)
3.687	3.652
3.688	3.653
3.689	3.654
3.690	3.657
3.691	3.655
3.692	3.656

Cross-Reference to Recodification of Standards of Good Engineering Practice Concerning Television Broadcast Stations

Old Sections	New Number (of Rules)
1. Definitions	Revised. 3.681
2. Transmission Standards and changes or modifications thereof	Revised. 3.682
3. Engineering Standards of Allocation	
3A.	Deleted.
3B.	Revised. 3.683, 3.684 (a), 3.685 (a)
3C. first paragraph	Revised. 3.684 (d)
second paragraph	Revised. 3.684 (c) and (d)
third paragraph	Revised. 3.684 (c) and (e)
fourth paragraph	Revised. 3.684 (f)
fifth paragraph	Deleted.
4. Topographical Data	3.684 (g)
5. Interference Standards	Revised. 3.610 and 3.612
6. Field Intensity Measurements in Allocation	
first to fifth paragraphs, inclusive	Revised. 3.686 (a) to (e), incl.
sixth and seventh paragraphs	Deleted.
eighth paragraph	Revised. 3.686 (f)
ninth paragraph	Revised. 3.686 (g)
7. Transmitter Location	
7A.	Revised. 3.685 (b)
7B.	Revised. 3.685 (b)
7C.	3.685 (c)
7D. first paragraph	3.685 (d)
second paragraph	Revised. 3.685 (i)
8. Antenna Systems	
8A.	3.685 (b)
8B.	Revised. 3.685 (f)
8C.	3.685 (g)
8D.	Revised. 3.685 (h)
8E. and 8F.	Revised. 3.685 (i)
9. Transmitters and Associated Equipment	
9A. Visual Transmitter Design	3.687 (a)
9B. Aural Transmitter Design	3.687 (b)
9C. Design Applicable to Both Visual and Aural Transmitters	Revised. 3.687 (c), 3.687 (a) (7) and 3.687 (b) (7)
9D. Construction	3.687 (d)
9E. Wiring and Shielding	3.687 (e)
9F. Installation	3.687 (g)
9G. Spare Tubes	3.687 (h)
9H. Operation	3.687 (i)
9I. Studio Equipment	3.687 (j)
10. Indicating Instruments	
10A. first paragraph	3.688 (a)
second paragraph	3.688 (b)
10B.	Revised. 3.688 (f)
10C.	3.688 (c)
10D.	3.688 (d)
10E.	3.688 (e)
11. Operating Power — Determination and Maintenance	
11A. Determination	Revised. 3.689 (a)
11B. Maintenance	3.689 (b)
12. Auxiliary Transmitters	3.687 (f)
Old Appendices	**New Appendices (to Rules)**
I. Television Synchronizing Waveform	Appendix C, Figure 4
II. Idealized Picture Transmission Amplitude Characteristic	Appendix C, Figure 3
III. Assumed Ideal Detector Output	Appendix C, Figure 7
IV. Figure 1. Ground Wave Signal Range, 46 Mc.	Deleted.
IV. Figure 2. Ground Wave Signal Range, 63 Mc.	Revised. Appendix C, Figure 5
IV. Figure 3. Ground Wave Signal Range, 82 Mc.	Revised. Appendix C, Figure 5
IV. Figure 4. Ground Wave Signal Range, 195 Mc.	Revised. Appendix C, Figure 6
V. (Not in Standards)	
VI. Standard Pre-Emphasis Curve	Appendix C, Figure 8

Subpart E — Rules Governing Television Broadcast Stations.

General

3.601. **Scope of rules.** This Subpart contains the rules and regulations (including engineering standards) governing television broadcast stations, including non-commercial educational television broadcast stations, in the United States, its Territories and Possessions.

3.602. **Other pertinent rules.** Other pertinent provisions of the Commission's rules and regulations relating to the television broadcast service are included in the following Parts:

Part 1 — Rules Relating to Practice and Procedure

Part 2—Rules Governing Frequency Allocation and Radio Treaty Matters; General Rules and Regulations

Part 4 — Experimental and Auxiliary Broadcast Services

Part 17—Rules Concerning the Construction, Marking, and Lighting of Antenna Structures

3.603. **Numerical designation of television channels.**

Channel No.	Frequency band (Megacycles)
2	54-60
3	60-66
4	66-72
5	76-82
6	82-88
7	174-180
8	180-186
9	186-192
10	192-198
11	198-204
12	204-210
13	210-216
14	470-476
15	476-482
16	482-488
17	488-494
18	494-500
19	500-506
20	506-512
21	512-518
22	518-524
23	524-530
24	530-536
25	536-542
26	542-548
27	548-554
28	554-560
29	560-566
30	566-572
31	572-578
32	578-584
33	584-590
34	590-596
35	596-602
36	602-608
37	608-614
38	614-620
39	620-626
40	626-632
41	632-638
42	638-644
43	644-650
44	650-656
45	656-662
46	662-668
47	668-674
48	674-680
49	680-686
50	686-692
51	692-698
52	698-704
53	704-710
54	710-716
55	716-722
56	722-728
57	728-734
58	734-740
59	740-746
60	746-752
61	752-758
62	758-764
63	764-770
64	770-776
65	776-782
66	782-788
67	788-794
68	794-800
69	800-806
70	806-812
71	812-818
72	818-824
73	824-830
74	830-836
75	836-842
76	842-848
77	848-854
78	854-860
79	860-866
80	866-872
81	872-878
82	878-884
83	884-890

CHANNEL UTILIZATION

3.606. **Table of Assignments.** (a) The following Table of Assignments contains the channels assigned to the listed communities in the United States, its Territories, and Possessions. Channels designated with an asterisk are assigned for use by non-commercial educational broadcast stations only. A station on a channel identified by a plus or minus mark is required to operate with its carrier frequencies offset 10 kc above or below, respectively, the normal carrier frequencies.[1]

[1]These identifications are now being prepared and will be included in the Table as soon as it is practicable to do so. New television stations authorized to operate subsequent to the issuance of these Rules will be required to operate with their carrier frequencies offset where it is so specified in the Table. Offset carrier frequencies of existing television broadcast stations operating on channels so affected will be listed in all construction permits, licenses, or renewal of licenses, upon issuance thereof. Permittees and licensees who wish to so operate prior to the time offset carrier frequencies are specified in their authorizations may request authority for such operation by filing informal requests therefor.

Table of Assignments

ALABAMA	Channel No.
Andalusi	29
Anniston	37
Auburn	*56
Bessemer	54
Birmingham	6, *10, 13, 42, 48
Brewton	23
Clanton	14
Cullman	60
Decatur	23
Demopolis	18
Dothan	9, 19
Enterprise	40
Eufaula	44
Florence	41
Fort Payne	19
Gadsden	15, 21
Greenville	49
Guntersville	40
Huntsville	31
Jasper	17
Mobile	5, 8, *42, 48
Montgomery	12, 20, *26, 32
Opelika	22
Selma	58
Sheffield	47
Sylacauga	24
Talladega	64
Thomasville	27
Troy	38
Tuscaloosa	45, 51
Tuskegee	16
University	*7

ARIZONA	
Ajo	14
Bisbee	15
Casa Grande	18
Clifton	25
Coolidge	30
Douglas	3
Eloy	24
Flagstaff	9, 13
Globe	34
Holbrook	14
Kingman	6
Mesa	12
Miami	28
Morenci	31
Nogales	17
Phoenix	3, 5, *8, 10
Prescott	15
Safford	21
Tucson	4, *6, 9, 13
Williams	25
Winslow	16
Yuma	11, 13

ARKANSAS	
Arkadelphia	34
Batesville	30
Benton	40
Blytheville	64, 74
Camden	50
Conway	49
El Dorado	10, 26
Fayetteville	*13, 41
Forrest City	22
Fort Smith	5, *16, 22
Harrison	24
Helena	54
Hope	15
Hot Springs	9, 52
Jonesboro	8, 39
Little Rock	*2, 4, 11, 17, 23
Magnolia	28
Malvern	46
Morrilton	43
Newport	28
Paragould	44
Pine Bluff	7, 36
Russellville	19
Searcy	33
Springdale	35
Stuttgart	14

CALIFORNIA	
Alturas	9
Bakersfield	10, 29
Brawley	25
Chico	12
Corona	52
Delano	33
El Centro	16
Eureka	3, 13
Fresno	12, *18, 24, 47, 53
Hanford	21
Los Angeles	2, 4, 5, 7, 9, 11, 13, 22, *28, 34
Madera	30
Merced	34
Modesto	14
Monterey (see Salinas)	
Napa	62
Oakland (see San Francisco)	
Oxnard	32
Petaluma	56
Port Chicago	15
Red Bluff	16
Redding	7
Riverside	40, 46
Sacramento	3, *6, 10, 40, 46
Salinas-Monterey	8, 28
San Bernardino	18, *24, 30
San Buenaventura	38
San Diego	8, 10, *15, 21, 27, 33, 39
San Francisco-Oakland	2, 4, 5, 7, *9, 20, 26, 32, 38, 44
San Jose	11, 48, *54, 60
San Luis Obispo	6
Santa Barbara	3, 20, 26
Santa Cruz	16
Santa Maria	44
Santa Paula	16
Santa Rosa	50
Stockton	13, 36, *42
Tulare	27
Ukiah	18
Visalia	43, 49
Watsonville	22
Yreka City	11
Yuba City	52

COLORADO	
Alamosa	19
Boulder	*12, 22
Canon City	36
Colorado Springs	11, 13, *17, 23
Craig	19
Delta	24
Denver	2, 4, *6, 7, 9, 20, 26
Durango	6, 15
Fort Collins	44
Fort Morgan	15
Grand Junction	5, 21
Greeley	50
La Junta	24
Lamar	18
Leadville	14
Longmont	32
Loveland	38
Montrose	10, 18
Pueblo	3, 5, *8, 28, 34
Salida	25
Sterling	25
Trinidad	21
Walsenburg	30

CONNECTICUT	
Bridgeport	43, 49, *71
Hartford	3, 18, *24
Meriden	65
New Britain	30
New Haven	8, 59
New London	26, 81
Norwalk (see Stamford)	
Norwich	57, *63
Stamford-Norwalk	27
Waterbury	53

DELAWARE	
Dover	40
Wilmington	12, 53, *59

DISTRICT OF COLUMBIA	
Washington	4, 5, 7, 9, *20, *26

FLORIDA	
Belle Glade	25
Bradenton	28
Clearwater	32
Daytona Beach	2
De Land	44
Fort Lauderdale	17, 23
Fort Myers	11
Fort Pierce	19
Gainesville	*5, 20
Jacksonville	4, *7, 12, 30, 36
Key West	14, 20
Lake City	33
Lakeland	16, 22
Lake Wales	14
Leesburg	26
Marianna	17
Miami	*2, 4, 7, 10, 27, 33
Ocala	15
Orlando	6, 9, 18, *24
Palatka	17
Panama City	7, *30, 36
Pensacola	3, 15, *21, 46
Quincy	54
St. Augustine	25
St. Petersburg (see Tampa)	
Sanford	35
Sarasota	34
Tallahassee	*11, 24, 51
Tampa-St. Petersburg	*3, 8, 13, 38
West Palm Beach	5, 12, *15, 21

GEORGIA	
Albany	10, 25
Americus	31
Athens	*8, 60
Atlanta	2, 5, 11, *30, 36
Augusta	6, 12
Bainbridge	35
Brunswick	28, 34
Cairo	45
Carrollton	33
Cartersville	63
Cedartown	53
Columbus	4, 28, *34
Cordele	43
Dalton	25
Douglas	32
Dublin	15
Elberton	16
Fitzgerald	23
Fort Valley	18
Gainesville	52
Griffin	39
La Grange	50
Macon	13, *41, 47
Marietta	57
Milledgeville	51
Moultrie	48
Newnan	61
Rome	9, 59
Savannah	3, *9, 11
Statesboro	22
Swainsboro	28
Thomasville	6, 17
Tifton	16
Toccoa	33
Valdosta	37
Vidalia	28
Waycross	18

IDAHO	
Blackfoot	23
Boise	*4, 7, 9
Burley	15
Caldwell	2
Couer d'Alene	12
Emmett	26
Gooding	23
Idaho Falls	3, 9
Jerome	11
Kellogg	22
Lewiston	7
Moscow	*15
Nampa	6, 12
Payette	14
Pocatello	6, 10
Preston	6
Rexburg	27
Rupert	21
Sandpoint	1
Twin Falls	11, 13
Wallace	27
Weiser	26

ILLINOIS	
Alton	6
Aurora	18
Belleville	50
Bloomington	15
Cairo	24
Carbondale	34, *39
Centralia	32, 38
Champaign-Urbana	3, *12, 21, 27, 33
Chicago	2, 5, 7, 9, *11, 20, 26, 32, 38, 44
Danville	24
Decatur	17, 23
De Kalb	*47
Dixon	43
Elgin	23
Freeport	29
Galesburg	40
Harrisburg	21
Jacksonville	28
Joliet	49
Kankakee	16
Kewanee	66
La Salle	35
Lincoln	53
Macomb	61
Marion	6
Mattoon	6
Moline (see Davenport, Iowa)	
Mt. Vernon	3
Olney	16
Pekin	6
Peoria	8, 19, *37, 43
Quincy	10, 27
Rockford	13, 39, 45
Rock Island (see Davenport, Iowa)	
Springfield	2, 20, *26
Streator	65
Urbana (see Champaign)	
Vandalia	31
Waukegan	22

INDIANA	
Anderson	61
Angola	15
Bedford	16
Bloomington	4, *30, 36
Columbus	6
Connersville	18
Elkhart	52
Evansville	7, 50, *56, 62
Fort Wayne	21, *27, 33
Gary	50, *62
Hammond	38
Indianapolis	6, 8, 13, *20, 26, 63
Jasper	19
Kokomo	31
Lafayette	*47, 59
Lebanon	11
Longansport	51
Madison	25
Marion	21
Michigan City	6
Muncie	49, 55, 67
Richmond	2

	Channel No.
Shelbyville	58
South Bend	34, *40, 46
Tell City	31
Terre Haute	10, *57, 63
Vincennes	44
Washington	60

IOWA

Algona	37
Ames	5, 25
Atlantic	45
Boone	19
Burlington	32, 38
Carroll	39
Cedar Rapids	2, 9, 20, *26
Centerville	31
Charles City	18
Cherokee	14
Clinton	64
Creston	43
Davenport-Rock Island & Moline, Illinois	4, 6, *30, 36, 42
Decorah	44
Des Moines	8, *11, 13, 17, 23
Dubuque	56, 62
Estherville	24
Fairfield	54
Fort Dodge	21
Fort Madison	50
Grinnell	46
Iowa City	*12, 24
Keokuk	44
Knoxville	33
Marshalltown	49
Mason City	3, 35
Muscatine	58
Newton	29
Oelwein	28
Oskaloosa	52
Ottumwa	15
Red Oak	32
Shenandoah	20
Sioux City	4, 9, *30, 36
Spencer	42
Storm Lake	34
Waterloo	7, 16, *22
Webster City	27

KANSAS

Abilene	31
Arkansas City	49
Atchison	60
Chanute	50
Coffeyville	33
Colby	22
Concordia	47
Dodge City	6, 23
El Dorado	55
Emporia	39
Fort Scott	27
Garden City	9, 11
Goodland	31
Great Bend	2, 28
Hays	7, 20
Hutchinson	12, 18
Independence	20
Iola	44
Junction City	29
Larned	15
Lawrence	*11, 17
Leavenworth	54
Liberal	14
McPherson	26
Manhattan	*8, 23
Newton	14
Olathe	52
Ottawa	21
Parsons	46
Pittsburg	7, 38
Pratt	36
Salina	34
Topeka	13, 42, *48
Wellington	24
Wichita	3, 10, 16, *22
Winfield	43

KENTUCKY

Ashland	59
Bowling Green	13, 17
Campbellsville	40
Corbin	16
Danville	35
Elizabethtown	23
Frankfort	43
Glasgow	28
Harlan	36
Hazard	19
Hopkinsville	20
Lexington	27, 33
Louisville	3, 11, *15, 21, 41, 51
Madisonville	26
Mayfield	49
Maysville	24
Middlesborough	57, 63
Murray	33
Owensboro	14
Paducah	6, 43
Pikeville	14
Princeton	45
Richmond	60
Somerset	22
Winchester	37

LOUISIANA

Abbeville	42
Alexandria	5, 62
Bastrop	53
Baton Rouge	10, 28, *34, 40
Bogalusa	39
Crowley	21
De Ridder	14
Eunice	64
Franklin	46
Hammond	51
Houma	30
Jackson	18
Jennings	48
Lafayette	38, 67
Lake Charles	7, *19, 25
Minden	30
Monroe	8, 43
Morgan City	36
Natchitoches	17
New Iberia	15
New Orleans	*2, 4, 6, 20, 26, 32, 61
Oakdale	54
Opelousas	58
Ruston	20
Shreveport	3, 12
Thibodaux	24
Winnfield	22

MAINE

Auburn	23
Augusta	10, 29
Bangor	2, 5, *16
Bar Harbor	22
Bath	65
Belfast	41
Biddeford	59
Calais	7, 20
Dover-Foxcroft	18
Fort Kent	17
Houlton	24
Lewiston	8, 17
Millinocket	14
Orono	*12
Portland	6, 13, *47, 53
Presque Isle	8, 19
Rockland	25
Rumford	55
Van Buren	15
Waterville	35

MARYLAND

Annapolis	14
Baltimore	2, 11, 13, 18, *24, 30
Cambridge	22
Cumberland	17
Frederick	62
Hagerstown	52
Salisbury	16

MASSACHUSETTS

Barnstable	52
Boston	*2, 4, 5, 7, 44, 50, 56
Brockton	62
Fall River	40, 46
Greenfield	42
Holyoke (see Springfield)	
Lawrence	38
Lowell	32
New Bedford	28, 34
North Adams	15
Northampton	36
Pittsfield	64
Springfield-Holyoke	55, 61
Worcester	14, 20

MICHIGAN

Alma	41
Alpena	9, 30
Ann Arbor	20, *26
Bad Axe	46
Battle Creek	58, 64
Bay City	5, 63, *73
Benton Harbor	42
Big Rapids	39
Cadillac	13, 45
Calumet	13
Cheboygan	4, 36
Coldwater	24
Detroit	2, 4, 7, 50, *56, 62
East Lansing	60
East Tawas	25
Escanaba	3
Flint	12, 16, *22, 28
Gladstone	40
Grand Rapids	8, *17, 23
Hancock	10
Houghton	19
Iron Mountain	9, 27
Iron River	12
Ironwood	31
Jackson	48
Kalamazoo	3, 36
Lansing	6, 54
Ludington	18
Manistee	15
Manistique	14
Marquette	5, 17
Midland	19
Mount Pleasant	47
Muskegon	29, 35
Petoskey	31
Pontiac	44
Port Huron	34
Rogers City	24
Saginaw	51, 57
Sault Ste. Marie	8, 10, 28, *34
Traverse City	7, 20, *26
West Branch	21

MINNESOTA

Albert Lea	57
Alexandria	36
Austin	6, 51
Bemidji	24
Brainerd	12
Cloquet	44
Crookston	21
Detroit Lakes	18
Duluth-Superior, Wis.	3, 6, *8, 32, 38
Ely	16
Fairmont	40
Faribault	20
Fergus Falls	16
Grand Rapids	20
Hastings	29
Hibbing	10
International Falls	11
Little Falls	14
Mankato	15
Marshall	22
Minneapolis-St. Paul	*2, 4, 5, 9, 11, 17, 23
Montevideo	19
New Ulm	43
Northfield	26
Owatonna	45
Red Wing	63
Rochester	10, 55
St. Cloud	7, 33
St. Paul (see Minneapolis)	
Stillwater	39
Thief River Falls	15
Virginia	26
Wadena	27
Willmar	31
Winona	61
Worthington	32

MISSISSIPPI

Biloxi	13, *44, 50
Brookhaven	37
Canton	16
Clarksdale	6, 32
Columbia	35
Columbus	28
Corinth	29
Greenville	21, 27
Greenwood	24
Grenada	15
Gulfport	56
Hattiesburg	9, 17
Jackson	12, *19, 25, 47
Kosciusko	52
Laurel	33
Louisville	46
McComb	31
Meridian	11, 30, *36
Natchez	29
Pascagoula	22
Picayune	14
Starkville	34
State College	*2
Tupelo	38
University	*20
Vicksburg	41
West Point	8, 56
Yazoo City	49

MISSOURI

Cape Girardeau	12, 18
Carthage	56
Caruthersville	27
Chillicothe	14
Clinton	49
Columbia	8, 16, 22
Farmington	52
Festus	14
Fulton	24
Hannibal	7, 27
Jefferson City	13, 33
Joplin	12, 30
Kansas City	4, 5, 9, *19, 25, 65
Kennett	21
Kirksville	3, 18
Lebanon	23
Marshall	40
Maryville	26
Mexico	45
Moberly	35
Monett	14
Nevada	18
Poplar Bluff	15
Rolla	31
St. Joseph	2, 30, *36
St. Louis	4, 5, *9, 11, 30, 36, 42
Sedalia	6, 28
Sikeston	37
Springfield	3, 10, *26, 32
West Plains	20

MONTANA

Anaconda	2
Billings	2, 8, *11
Bozeman	*9, 22
Butte	4, 6, *7, 15
Cut Bank	20
Deer Lodge	25
Dillon	20
Glasgow	16
Glendive	18
Great Falls	3, 5, *23
Hamilton	17
Hardin	4
Havre	9, 11
Helena	10, 12
Kalispell	8
Laurel	14
Lewistown	13
Livingston	16
Miles City	3, *6, 10
Missoula	*11, 13, 21
Polson	18
Red Lodge	18
Shelby	14
Sidney	14
Whitefish	16
Wolf Point	20

NEBRASKA

Alliance	13, 21
Beatrice	40
Broken Bow	14
Columbus	49
Fairbury	35
Falls City	38
Fremont	52
Grand Island	11, 21
Hastings	5, 27
Kearney	13, 19
Lexington	23
Lincoln	10, 12, *18, 24
McCook	8, 17
Nebraska City	50
Norfolk	33
North Platte	2, 4
Omaha	3, 6, 7, *16, 22, 28
Scottsbluff	10, 16
York	15

NEVADA

Boulder City	4
Carlin	14
Carson City	37
Elko	10
Ely	3, 6
Fallon	29
Goldfield	5
Hawthorne	31
Henderson	2
Las Vegas	8, *10, 13
Lovelock	18
McGill	8
Reno	4, 8, *21, 27
Tonopah	9
Winnemucca	7
Yerington	33

NEW HAMPSHIRE

Berlin	26
Claremont	37
Concord	27
Durham	*11
Hanover	*21
Keene	45
Laconia	43
Littleton	24
Manchester	9, 48
Nashua	54
Portsmouth	19
Rochester	51

NEW JERSEY

Andover	*69
Asbury Park	58
Atlantic City	46, 52
Bridgeton	64
Camden	*80
Freehold	*74
Hammonton	*70
Montclair	*77
Newark	13
New Brunswick	*19, 47
Paterson	37
Trenton	41
Wildwood	48

NEW MEXICO

Alamagordo	17
Albuquerque	4, *5, 7, 13
Artesia	21
Atrisco-Five Points	18
Belen	24
Carlsbad	6, 23
Clayton	27
Clovis	12, 35
Deming	14
Farmington	17
Gallup	3, *8, 10
Hobbs	46
Hot Springs	19
Las Cruces	22
Las Vegas	14
Lordsburg	23
Los Alamos	20
Lovington	27
Portales	22
Raton	46, *52
Roswell	*3, 8, 10
Santa Fe	2, *9, 11
Silver City	*10, 12
Socorro	15
Tucumcari	25

NEW YORK

Albany-Schenectady-Troy	6, *17, 23, 41
Amsterdam	52
Auburn	37
Batavia	33
Binghamton	12, 40, *46
Buffalo (also see Buffalo-Niagara Falls)	17, *23
Buffalo-Niagara Falls	2, 4, 7, 59
Cortland	56
Dunkirk	46
Elmira	18, 24
Glens Falls	39
Gloversville	29
Hornell	50
Ithaca	*14, 20
Jamestown	58
Kingston	66
Malone	20, *66
Massena	14
Middletown	60
New York	2, 4, 5, 7, 9, 11, *25, 31
Niagara Falls (see Buffalo-Niagara Falls)	
Ogdensburg	24
Olean	54
Oneonta	62
Oswego	31
Plattsburg	28
Poughkeepsie	21, *83
Rochester	5, 10, 15, *21, 27
Rome (see Utica)	
Saranac Lake	18
Schenectady (also see Albany)	35
Syracuse	3, 8, *43
Troy (see Albany)	
Utica-Rome	13, 19, *25
Watertown	48

NORTH CAROLINA

Ahoskie	53
Albemarle	20
Asheville	13, *56, 62

	Channel No.
Burlington	63
Chapel Hill	*4
Charlotte	3, 9, 36, *42
Durham	11, *40, 46
Elizabeth City	31
Fayetteville	18
Gastonia	48
Goldsboro	34
Greensboro	2, *51, 57
Greenville	9
Henderson	52
Hendersonville	27
Hickory	30
High Point	15
Jacksonville	16
Kannapolis	59
Kinston	45
Laurinburg	41
Lumberton	21
Mount Airy	55
New Bern	13
Raleigh	5, *22, 28
Roanoke Rapids	30
Rocky Mount	50
Salisbury	53
Sanford	38
Shelby	39
Southern Pines	49
Statesville	64
Washington	7
Wilmington	6, 29, *35
Wilson	56
Winston-Salem	12, 26, *32

NORTH DAKOTA

Bismarck	5, 12, 18, *24
Bottineau	16
Carrington	26
Devils Lake	8, 14
Dickinson	2, 4, *17
Fargo	6, 13, *34, 40
Grafton	17
Grand Forks	*2, 10
Harvey	22
Jamestown	7, 42
Lisbon	23
Minot	*6, 10, 13
New Rockford	20
Rugby	38
Valley City	4, 32
Wahpeton	45
Williston	8, 11, *34

OHIO

Akron	49, *55, 61
Ashtabula	15
Athens	62
Bellefontaine	63
Cambridge	26
Canton	29
Chillicothe	56
Cincinnati	5, 9, 12, *48, 54, 74
Cleveland	3, 5, 8, 19, *25, 65
Columbus	4, 6, 10, *34, 40
Coshocton	20
Dayton	2, 7, *16, 22
Defiance	43
Findlay	53
Gallipolis	18
Hamilton-Middletown	65
Lancaster	28
Lima	35, 41
Lorain	31
Mansfield	36
Marion	17
Massillon	23
Middletown (see Hamilton)	
Mount Vernon	58
Newark	60
Oxford	*14
Piqua	44
Portsmouth	30
Sandusky	42
Springfield	46, 52
Steubenville (see Wheeling, W. Va.)	
Tiffin	47
Toledo	11, 13, *30
Warren	21
Youngstown	27, 33, 73
Zanesville	50

OKLAHOMA

Ada	50
Altus	36
Alva	30
Anadarko	58
Ardmore	55
Bartlesville	62
Blackwell	51
Chickasha	64
Claremore	15
Clinton	32
Duncan	39
Durant	27
Elk City	12, 15
El Reno	56
Enid	5, 21, *27
Frederick	44
Guthrie	48
Guymon	26
Hobart	23
Holdenville	14
Hugo	21
Lawton	7, *28, 34
McAlester	47
Miami	58
Muskogee	8, *45, 66
Norman	31, *37
Oklahoma City	4, 9, *13, 19, 25
Okmulgee	26
Pauls Valley	61
Ponca City	40
Pryor Creek	54
Sapulpa	42
Seminole	59
Shawnee	53
Stillwater	29, *69
Tulsa	2, 6, *11, 17, 23
Vinita	28
Woodward	8

OREGON

Albany	55
Ashland	14
Astoria	30
Baker	37
Bend	15
Burns	16
Corvallis	*7, 49
Eugene	*9, 13, 20, 26
Grants Pass	30
Klamath Falls	2
La Grande	13
Lebanon	43
McMinnville	46
Medford	4, 5
North Bend	16
Pendleton	28
Portland	6, 8, *10, 12, 21, 27
Roseburg	28
Salem	3, *18, 24
Springfield	37
The Dalles	32

PENNSYLVANIA

Allentown	39, 45
Altoona	10, 19, 25
Bethlehem	51
Bradford	48
Butler	43
Chambersburg	46
Du Bois	31
Easton	57
Emporium	42
Erie	12, 35, *41, 66
Harrisburg	27, 33, 71
Hazleton	63
Johnstown	6, 56
Lancaster	8, 21
Lebanon	15
Lewistown	38
Lock Haven	32
Meadville	37
New Castle	45
Oil City	64
Philadelphia	3, 6, 10, 17, 23, 29, *35
Pittsburgh	2, 11, *13, 16, 47, 53
Reading	55, 61
Scranton	16, 22, 73
Sharon	39
State College	*44
Sunbury	65
Uniontown	14
Washington	63
Wilkes-Barre	28, 34
Williamsport	36
York	43, 49

RHODE ISLAND

Providence	10, 12, 16, *22

SOUTH CAROLINA

Aiken	54
Anderson	58
Camden	14
Charleston	2, 5, *13
Clemson	*68
Columbia	10, *19, 25, 67
Conway	23
Florence	8
Georgetown	27
Greenville	4, 23, *29
Greenwood	21
Lake City	55
Lancaster	31
Laurens	45
Marion	43
Newberry	37
Orangeburg	44
Rock Hill	61
Spartanburg	7, 17
Sumter	47
Union	65

SOUTH DAKOTA

Aberdeen	9, 17
Belle Fourche	23
Brookings	*8, 25
Hot Springs	17
Huron	12, 15
Lead	5, 26
Madison	46
Mitchell	5, 20
Mobridge	27
Pierre	6, 10, *22
Rapid City	7, 15
Sioux Falls	11, 13, 38, *44
Sturgis	20
Vermillion	*2, 41
Watertown	3, 35
Winner	18
Yankton	17

TENNESSEE

Athens	14
Bristol, Tenn.-Bristol, Va.	5, 46
Chattanooga	3, 12, 43, 49, *55
Clarksville	53
Cleveland	38
Columbia	39
Cookeville	24
Covington	19
Dyersburg	46
Elizabethton	40
Fayetteville	27
Gallatin	48
Harriman	67
Humboldt	25
Jackson	9, 16
Johnson City	11, 34
Kingsport	28
Knoxville	6, 10, *20, 26
Lawrenceburg	50
Lebanon	58
McMinnville	46
Maryville	51
Memphis	3, 5, *10, 13, 42, 48
Morristown	54
Murfreesboro	18
Nashville	*2, 4, 5, 8, 30, 36
Oak Ridge	32
Paris	51
Pulaski	44
Shelbyville	62
Springfield	42
Tullahoma	65
Union City	55

TEXAS

Abilene	9, 33
Alice	34
Alpine	12
Amarillo	*2, 4, 7, 10
Athens	25
Austin	7, 18, 24, *30
Ballinger	25
Bay City	33
Beaumont-Port Arthur	4, 6, 31, *37
Beeville	38
Big Spring	4
Bonham	43
Borger	33
Brady	15
Breckenridge	14
Brenham	52
Brownfield	15
Brownsville (also see Brownsville-Harlingen-Weslaco)	36
Brownsville-Harlingen-Weslaco[1]	4, 5
Brownwood	19
Bryan	54
Childress	40
Cleburne	57
Coleman	21
College Station	*3, 48
Conroe	20
Corpus Christi	6, 10, *16, 22
Corsicana	47
Crockett	56
Crystal City	28
Cuero	25
Dalhart	16
Dallas	4, 8, *13, 23, 29, 73
Del Rio	16
Denison	52
Denton	*2, 17
Eagle Pass	26
Edinburg	26
El Campo	27
El Paso	4, *7, 9, 13, 20, 26
Falfurrias	52
Floydada	45
Fort Stockton	22
Fort Worth	5, 10, 20, *26
Gainesville	49
Galveston	11, 35, 41, *47
Gonzales	64
Greenville	62
Harlingen (also see Brownsville-Harlingen-Weslaco)	23
Hebbronville	58
Henderson	42
Hereford	19
Hillsboro	63
Houston	2, *8, 13, 23, 29, 39
Huntsville	15
Jacksonville	36
Jasper	49
Kermit	14
Kilgore	59
Kingsville	40
Lamesa	28
Lampasas	40
Laredo	8, 13, *15
Levelland	38
Littlefield	32
Longview	32, 38
Lubbock	5, 11, 13, *20, 26
Lufkin	9, 46
McAllen	20
McKinney	65
Marfa	19
Marshall	16
Mercedes	32
Mexia	50
Midland	2, 18
Mineral Wells	38
Mission	14
Monahans	9
Mount Pleasant	35
Nacogdoches	40
New Braunfels	62
Odessa	7, 24
Orange	43
Pampa	17
Paris	33
Pearsall	31
Pecos	16
Perryton	22
Plainview	29
Port Arthur (see Beaumont)	
Quanah	42
Raymondville	42
Rosenberg	17
San Angelo	6, 8, 17, *23
San Antonio	4, 5, *9, 12, 35, 41
San Benito	48
San Marcos	53

[1] These assignments may be utilized in any community lying within the area of the triangle formed by Brownsville, Harlingen and Weslaco.

	Channel No.
Seguin	
Seymour	
Sherman	
Snyder	
Stephenville	
Sulphur Springs	
Sweetwater	
Taylor	
Temple	16,
Terrell	
Texarkana	6, *18,
Tyler	7,
Uvalde	
Vernon	
Victoria	
Waco	11, *28,
Waxahachie	
Weatherford	
Weslaco (see Brownsville-Harlingen-Weslaco)	
Wichita Falls	3, 6, *16,

UTAH

Brigham	
Cedar City	
Logan	12, 30,
Ogden	9, *18,
Price	
Provo	11, 22,
Richfield	
St. George	
Salt Lake City	2, 4, 5, *7, 20,
Tooele	
Vernal	

VERMONT

Bennington	
Brattleboro	
Burlington	*16,
Montpelier	3,
Newport	
Rutland	
St. Albans	
St. Johnsbury	

VIRGINIA

Blacksburg	
Bristol (see Bristol, Tenn.)	
Charlottesville	*45,
Covington	
Danville	
Emporia	
Farmville	
Fredericksburg	
Front Royal	
Harrisonburg	3,
Lexington	
Lynchburg	13,
Marion	
Martinsville	
Newport News (see Norfolk-Portsmouth-Newport News)	
Norfolk-Portsmouth (also see Norfolk-Portsmouth-Newport News)	
Norfolk-Portsmouth-Newport News (also see Norfolk-Portsmouth)	3, 10, 15, *21,
Norton	
Petersburg	8,
Portsmouth (see Norfolk-Portsmouth and also see Norfolk-Portsmouth-Newport News)	
Pulaski	
Richmond	6, 12, *23,
Roanoke	7, 10, 27,
South Boston	
Staunton	
Waynesboro	
Williamsburg	
Winchester	

WASHINGTON

Aberdeen	
Anacortes	
Bellingham	12, 18,
Bremerton	44,
Centralia	
Ellensburg	48,
Ephrata	
Everett	22,
Grand Coulee	
Hoquiam	
Kelso	
Kennewick (also see Kennewick-Richland-Pasco)	
Kennewick-Richland-Pasco	
Longview	
Olympia	
Omak-Okanogan	
Okanogan (see Omak)	
Pasco (also see Kennewick-Richland-Pasco)	
Port Angeles	
Pullman	*10,
Richland (also see Kennewick-Richland-Pasco)	
Seattle	4, 5, 7, *9, 20,
Spokane	2, 4, 6,
Tacoma	11, 13, *56,
Walla Walla	5, 8,
Wenatchee	*45,
Yakima	23, 29,

WEST VIRGINIA

Beckley	6,
Bluefield	
Charleston	8, *43,
Clarksburg	12,
Elkins	
Fairmont	
Hinton	
Huntington	3, 13,
Logan	
Martinsburg	
Morgantown	

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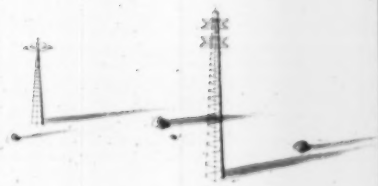

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	Channel No.
Parkersburg	15
Welch	25
Weston	32
Wheeling (also see Wheeling-Steubenville, Ohio)	*57
Wheeling-Steubenville, Ohio	7, 9, 51
Williamson	17
WISCONSIN	
Adams	*58
Appleton	42
Ashland	15
Beaver Dam	37
Beloit	57
Chilton	*24
Eau Claire	13, *19, 25
Fond du Lac	54
Green Bay	2, 6
Janesville	63
Kenosha	61
La Crosse	8, *32, 38
Madison	3, *21, 27, 33
Manitowoc	65
Marinette	11, 32, *38
Milwaukee	4, *10, 12, 19, 25, 31
Oshkosh	48
Park Falls	*18
Portage	17
Prairie du Chien	34
Racine	49, 55
Rhinelander	22
Rice Lake	21
Richland Center	15, *66
Sheboygan	59
Shell Lake	*30
Sparta	50
Stevens Point	20, 26
Sturgeon Bay	44
Superior (see Duluth, Minn.)	
Wausau	7, 16, *46
Wisconsin Rapids	14
WYOMING	
Buffalo	29
Casper	2, 6
Cheyenne	3, 5
Cody	24
Douglas	14
Evanston	14
Gillette	31
Green River	16
Greybull	40
Lander	17
Laramie	*8, 18
Lovell	36
Lusk	19
Newcastle	28
Powell	30
Rawlins	11
Riverton	10
Rock Springs	13
Sheridan	9, 12
Thermopolis	15
Torrington	27
Wheatland	24
Worland	34
U. S. TERRITORIES AND POSSESSIONS	
ALASKA	
Anchorage	2, *7, 11, 13
Fairbanks	2, 4, 7, *9, 11, 13
Juneau	*3, 8, 10
Ketchikan	2, 4, *9
Seward	4, 9
Sitka	13
HAWAIIAN ISLANDS	
Lihue, Kauai	3, *8, 10, 12
Honolulu, Oahu	2, 4, *7, 9, 11, 13
Wailuku, Maui	3, 8, *10, 12
Hilo, Hawaii	2, *4, 7, 9, 11, 13
PUERTO RICO	
Arecibo	13
Caguas	11
Mayaguez	3, 5
Ponce	7, 9
San Juan	2, 4, *6
VIRGIN ISLANDS	
Christiansted	8
Charlotte Amalie	10, 12

3.607. **Availability of channels.** (a) Subject to the provisions of subparagraph (b) herein, applications may be filed to construct television broadcast stations only on the channels assigned in the Table of Assignments and only in the communities listed therein. Applications which fail to comply with this requirement, whether or not accompanied by a petition to amend the Table, will not be accepted for filing.

(b) A channel assigned to a community listed in the Table of Assignments is available upon application in any unlisted community which is located within 15 miles of the listed community. Where channels are assigned to two or more communities listed in combination in the Table, such channels are also available to any unlisted communities which are located within 15 miles of any of such listed communities. The distance between such listed and unlisted communities shall be determined by the distance between the respective coordinates thereof as set forth in the publication of the United States Department of Commerce entitled "Air Line Distances Between Cities in the United States."[2] If said publication does note contain the coordinates of either or both communities, the coordinates of the main post office in either or both of such communities shall be used. The method to be followed in making the measurements is set forth in Section 3.611 of this Subpart.

3.608. **International agreements.** Authorizations issued by the Commission for television broadcast facilities will be subject to the provisions of any agreements entered into by the United States with Canada and Mexico concerning television assignments and authorizations.[3] Where, pursuant to such an agreement, timely objection is received from the foreign country involved to an authorization granted by the Commission, the Commission may, on its own motion, set aside such authorization pending consideration of such objection. Upon receipt of such objection, the Commission will notify the person to whom such authorization has been issued.

3.609. **Changes in Table of Assignments.** Except as provided below, the Table of Assignments (Section 3.606) and the rules relating to separations as set forth in Section 3.610 of this Subpart, shall not be subject to amendment on petition within the one year period following the effective date of these Rules. Petitions to amend the Table of Assignments will be eligible for consideration during said period under the following circumstances, provided that the requests therein comply with the minimum assignment separations set forth in Section 3.610 of this Subpart and that the petitions do not request any deletions or substitutes of channels in any community listed in the Table:

(a) Where the petitioner seeks the assignment of a channel to a community which is not listed in the Table and which is not located within 15 miles of a listed community.

(b) Where the petitioner seeks the assignment of a noncommercial educational channel to a community listed in the Table and to which such a channel has not been assigned.

(c) Where the petitioner seeks the assignment of a channel other than a noncommercial educational channel to a community listed in the Table and to which such a channel has not been assigned.

3.610. **Separations.** The following provisions relate to assignment separations and station separations. Petitions to amend the Table of Assignments (other than those also expressly requesting amendment of this subparagraph) will be dismissed and all applications for new television broadcast stations or for changes in the transmitter sites of existing stations will not be accepted for filing if they fail to comply with the requirements specified in the following subparagraphs.[4]

(a) Minimum co-channel assignment and station separations:

(1) Zone	Channels 2-13	Channels 14-83
I	170 miles	155 miles
II	190 miles	175 miles
III	220 miles	205 miles

(i) Zone I consists of that portion of the United States located within the confines of the following lines drawn on the United States Albers Equal Area Projection Map (based on standard parallels 29½° and 45½°; North American datum): Beginning at the most easterly point on the state boundary line between North Carolina and Virginia; thence in a straight line to a point at the junction of the Ohio, Kentucky and West Virginia State boundary line; thence westerly along the the southern boundary lines of the States of Ohio, Indiana and Illinois to a point at the junction of the Illinois, Kentucky and Missouri State boundary lines; thence northerly along the western boundary line of the State of Illinois to a point at the junction of the Illinois, Iowa, and Wisconsin State boundary lines; thence easterly along the northern state boundary line of Illinois to the 90th meridian; thence north along this meridian to the 43.5° parallel; thence east along this parallel to the 71st meridian; thence in a straight line to the intersection of the 69th meridian and the 45th parallel; thence east along the 45th parallel to the Atlantic Ocean. When any of the above lines pass through a city, the city shall be considered to be located in Zone I. (See Appendix A, Figure 1.)

(ii) Zone II consists of that portion of the United States which is not located in either Zone I or Zone III, and Puerto Rico, Alaska, Hawaiian Islands and the Virgin Islands.

(iii) Zone III consists of that portion of the United States located south of a line, drawn on the United States Albers Equal Area Projection Map, (based on standard parallels 29½° and 45½°; North American datum), beginning at a point on the east coast of Georgia and the 31st parallel and ending at the United States-Mexican border, consisting of arcs drawn with a 150 mile radius to the north from the following specified points.

	North Latitude	West Longitude
a)	29°40′	83°24′
b)	30°07′	84°12′
c)	30°31′	86°30′
d)	30°48′	87°58′30″
e)	30°23′	90°12′
f)	30°04′30″	93°19′
g)	29°46′	95°05′
h)	28°43′	96°39′30″
i)	27°52′30″	97°32′

When any of the above arcs pass through a city, the city shall be considered to be located in Zone II. (See Appendix A, Figure 2.)

(2) The minimum co-channel mileage separation between a station in one zone and a station in another zone shall be that of the zone requiring the lower separation.

(b) Minimum assignment and station adjacent channel separations applicable to all Zones:

(1) Channels 2-13	Channels 14-83
60 miles	55 miles

(2) Due to the frequency sapcing which exists between Channels 4 and 5, between Channels 6 and 7, and between Channels 13 and 14, the minimum adjacent channel separations specified above shall not be applicable to these pairs of channels. (See Section 3.603.)

(c) In addition to the foregoing the following minimum assignment and station separations between stations on Channels 14-83, inclusive, must be met in either rulemaking proceedings looking toward the amendment of the Table of Assignments or in licensing proceedings. No channel listed in column (1) will be assigned to any city, and no application for an authorization to operate on such a channel will be granted unless the mileage separations indicated at the top of columns (2)-(7), inclusive, are met with respect to each of the channels listed in these columns and parallel with the channel in column (1).[5]

[2]This publication may be purchased from the Government Printing Office, Washington, D. C.

[3]These agreements when formalized, will be published as part of these rules.

[4]Licensees and permittees of television broadcast stations which were operating on April 14,1952 pursuant to one or more separations below those set forth in Section 3.610 may continue to so operate, but in no event may they further reduce the separations below the minimum. As the existing separations of such stations are increased, the new separations will become the required minimum separations until separations are reached which comply with the requirements of Section 3.610. Thereafter, the provisions of said Section shall be applicable.

[5]The parenthetical reference beneath the mileage figures in columns 2 to 7, inclusive, indicate, in abbreviated form, the bases for the required mileage separations. For a discussion of these bases, see the "Sixth Report and Order" of the Commission (FCC 52-294). The hyphenated numbers listed in column (3) are both inclusive.

(1) Channel	(2) 20 miles (I.F. beat)	(3) 20 miles (Intermodulation)	(4) 55 miles (Adjacent channel)	(5) 60 miles (Oscillator)	(6) 60 miles (Sound image)	(7) 75 miles (Picture image)
14	22	16-19	15	21	28	29
15	23	17-20	14,16	22	29	30
16	24	14,18-21	15,17	23	30	31
17	25	14-15,19-22	16,18	24	31	32
18	26	14-16,20-23	17,19	25	32	33
19	27	14-17,21-24	18,20	26	33	34
20	28	15-18,22-25	19,21	27	34	35
21	29	16-19,23-26	20,22	28,14	35	36
22	30,14	17-20,24-27	21,23	29,15	36	37
23	31,15	18-21,25-28	22,24	30,16	37	38
24	32,16	19-22,26-29	23,25	31,17	38	39
25	33,17	20-23,27-30	24,26	32,18	39	40
26	34,18	21-24,28-31	25,27	33,19	40	41
27	35,19	22-25,29-32	26,28	34,20	41	42
28	36,20	23-26,30-33	27,29	35,21	42,14	43
29	37,21	24-27,31-34	28,30	36,22	43,15	44,14
30	38,22	25-28,32-35	29,31	37,23	44,16	45,15
31	39,23	26-29,33-36	30,32	38,24	45,17	46,16
32	40,24	27-30,34-37	31,33	39,25	46,18	47,17
33	41,25	28-31,35-38	32,34	40,26	47,19	48,18
34	42,26	29-32,36-39	33,35	41,27	48,20	49,19
35	43,27	30-33,37-40	34,36	42,28	49,21	50,20
36	44,28	31-34,38-41	35,37	43,29	50,22	51,21
37	45,29	32-35,39-42	36,38	44,30	51,23	52,22
38	46,30	33-36,40-43	37,39	45,31	52,24	53,23
39	47,31	34-37,41-44	38,40	46,32	53,25	54,24
40	48,32	35-38,42-45	39,41	47,33	54,26	55,25
41	49,33	36-39,43-46	40,42	48,34	55,27	56,26
42	50,34	37-40,44-47	41,43	49,35	56,28	57,27
43	51,35	38-41,45-48	42,44	50,36	57,29	58,28
44	52,36	39-42,46-49	43,45	51,37	58,30	59,29
45	53,37	40-43,47-50	44,46	52,38	59,31	60,30
46	54,38	41-44,48-51	45,47	53,39	60,32	61,31
47	55,39	42-45,49-52	46,48	54,40	61,33	62,32
48	56,40	43-46,50-53	47,49	55,41	62,34	63,33
49	57,41	44-47,51-54	48,50	56,42	63,35	64,34
50	58,42	45-48,52-55	49,51	57,43	64,36	65,35
51	59,43	46-49,53-56	50,52	58,44	65,37	66,36
52	60,44	47-50,54-57	51,53	59,45	66,38	67,37
53	61,45	48-51,55-58	52,54	60,46	67,39	68,38
54	62,46	49-52,56-59	53,55	61,47	68,40	69,39
55	63,47	50-53,57-60	54,56	62,48	69,41	70,40
56	64,48	51-54,58-61	55,57	63,49	70,42	71,41
57	65,49	52-55,59-62	56,58	64,50	71,43	72,42
58	66,50	53-56,60-63	57,59	65,51	72,44	73,43
59	67,51	54-57,61-64	58,60	66,52	73,45	74,44
60	68,52	55-58,62-65	59,61	67,53	74,46	75,45
61	69,53	56-59,63-66	60,62	68,54	75,47	76,46
62	70,54	57-60,64-67	61,63	69,55	76,48	77,47
63	71,55	58-61,65-68	62,64	70,56	77,49	78,48
64	72,56	59-62,66-69	63,65	71,57	78,50	79,49
65	73,57	60-63,67-70	64,66	72,58	79,51	80,50
66	74,58	61-64,68-71	65,67	73,59	80,52	81,51
67	75,59	62-65,69-72	66,68	74,60	81,53	82,52
68	76,60	63-66,70-73	67,69	75,61	82,54	83,53
69	77,61	64-67,71-74	68,70	76,62	83,55	54
70	78,62	65-68,72-75	69,71	77,63	56	55
71	79,63	66-69,73-76	70,72	78,64	57	56
72	80,64	67-70,74-77	71,73	79,65	58	57
73	81,65	68-71,75-78	72,74	80,66	59	58
74	82,66	69-72,76-79	73,75	81,67	60	59
75	83,67	70-73,77-80	74,76	82,68	61	60
76	68	71-74,78-81	75,77	83,69	62	61
77	69	72-75,79-82	76,78	70	63	62
78	70	73-76,80-83	77,79	71	64	63
79	71	74-77,81-83	78,80	72	65	64
80	72	75-78,82-83	79,81	73	66	65
81	73	76-79,83	80,82	74	67	66
82	74	77-80	81,83	75	68	67
83	75	78-81	82	76	69	68

3.611 **Reference points and distance computations.** (a) In considering petitions to amend the Table of Assignments, the following reference points shall be used by the Commission in determining assignment separations between communities:

(1) Where transmitter sites for the pertinent channels have been authorized in communities involved in a petition to amend the Table of Assignments, separations between such communities shall be determined by the distance between the coordinates of the authorized transmitter sites in the respective communities as set forth in the Commission's authorizations therefor.

(2) Where an authorized transmitter site is available for use as a reference point in one community but not in the other for the pertinent channels, separations shall be determined by the distance between the coordinates of the transmitter site as set forth in the Commission's authorization therefor and the coordinates of the other community as set forth in the publication of the United States Department of Commerce entitled "Air Line Distances Between Cities in the United States." If said publication does not contain the coordinates for said other community, the coordinates of the main post office thereof shall be used.

(3) Where no authorized transmitter sites are available for use as reference points in both communities for the pertinent channels, the distance between the two communities listed in the above publication shall be used. If said publication does not contain such distance, the separation between the two communities shall be determined by the distance between the coordinates thereof as set forth in said publication. Where such coordinates are not contajned in said publication, the coordinates of the main post offices of said communities shall be used.

(b) Station separations in licensing proceedings shall be determined by the distance between the coordinates of the proposed transmitter site in one community and

(1) The coordinates of an authorized transmitter site for the pertinent channel in the other community; or, where such transmitter site is not available for use as a reference point,

(2) The coordinates of the other community as set forth in the above-described publication of the United States Department of Commerce; or, if not contained therein,

(3) The coordinates of the main post office of such other community.

(4) In addition, where there are pending applications in other communities which, if granted, would have to be considered in determining station separations, the coordinates of the transmitter sites proposed in such applications must be used to determine whether the requirements with respect to minimum separations between the proposed stations in the respective cities have been met.

(c) In measuring assignment and station separations involving cities listed in the Table, in combination, where there is no authorized transmitter site in any of the combination cities on the channel involved, separation measurements shall be made from the reference point which will result in the lowest separation.

(d) The distance between reference points is considered to be the length of the hypotenuse of a right triangle, one side of which is the difference in latitude of the reference points and the other side the difference in longitude of the two reference points, and shall be computed as follows:[6]

(1) Determine the difference in latitude and the difference in longitude between the two reference points. Convert these two differences into degrees and decimal parts of a degree in accordance with Appendix B, Table I.

(2) Determine the middle latitude of the two reference points to the nearest second of latitude (average the latitudes of the two points).

(3) Multiply the difference in latitude by the number of miles per degree of latitude difference obtained from Table II of Appendix B for the appropriate middle latitude (interpolate linearly).[7] [8] This determines the North-South distance in statute miles.

(4) Multiply the difference in longitude by the number of miles per degree of longitude difference obtained from Table III of Appendix B, for the appropriate middle latitude (interpolate linearly). This determines the East-West distance in statute miles.

(5) Determine the distance between the two reference points by the square root of the sum of the squares of the distances obtained in (3) and (4) above, i.e.

$$D = (L_s^2 + L_e^2)^{\frac{1}{2}}$$

Where: D = Distance in statute miles

L_s = North-South distance in miles from (3) above

L_e = East-West distance in miles from (4) above

In computing the above, sufficient decimal figures shall be used to determine the distance to the nearest mile.

3.612. **Protection from interference.** Permittees and licensees of television broadcast stations are not protected from any interference which may be caused by the grant of a new station or of authority to modify the facilities of an existing station in accordance with the provisions of the Subpart. The nature and extent of the protection from interference accorded to television broadcast stations is limited solely to the protection which results from the minimum assignment and station separation requirements and the rules with respect to maximum powers and antenna heights set forth in this Subpart.[9]

3.613. **Main studio location.** (a) The main studio of a television broadcast station shall be located in the principal community to be served.

(b) In cases where a showing is made that, due to the existence of unusual circumstances, compliance with the provisions of the above subparagraph will result in severe and undue hardship, the Commission will give consideration to the use of a main studio location other than that specified above. The licensee or permittee of a television broadcast station shall not move his main studio outside the borders of the community in which it is located without first securing a modification of construction permit or license. Such licensee or permittee shall notify the Commission promptly of any change in the location of the main studio within the community.

3.614 **Power and antenna height requirements.** (a) **Minimum requirements**—Applications filed for television broadcast stations in cities in the population groupings set forth below will not be accepted for filing if they fail to comply with the following requirements as to power at the specified antenna heights above average terrain:

Population of City (Excludes adjacent areas) (1950 Census)	Minimum effective radiated
1,000,000 and above	
250,000-1,000,000	
50,000- 250,000	
Under 50,000	

[6] This method is appropriate for determining distances up to 220 miles, and for such distances will normally be more accurate than by using spherical trigonometry without correction for the spheroidal shape of the earth. However, its accuracy deteriorates rapidly at distances beyond 300 miles and this method should not be used to compute greater distances.

[7] Tables II and III of Appendix B were computed from Clarke's Reference Spheroid of 1866. In the interest of clarity, the first two digits in the mileage tabulation in Table III have been omitted. The appropriate numbers before the decimal point are obtained in the tabulation at the point where the second digit changes by one unit.

[8] In determining necessary distance computations for the Territories, the appropriate mileage per degree may be obtained by linear interpolation of the data given on pages 122 and 123 of the tables in publication H.O. No. 9 (Bowditch-American Practical Navigator—1943 Edition) of the U.S. Navy Dept., Hydrographic Office. This publication may be purchased from the Government Printing Office, Washington, D. C.

[9] The nature and extent of the protection from interference accorded to television broadcast stations which were authorized prior to April 14, 1952, and which were operating on said date is limited not only as specified above but is further limited by any smaller separations existing between such stations on said date. Where, as a result of the adoption of the Table of Assignments, or of changes in transmitter sites made by such stations after said date, separations smaller than the required minimum are increased but still remain lower than the required minimum, protection accorded such stations will be limited to the new separations.

power in db above one kilowatt (dbk) for the antenna height shown

17 dbk (50 kw)/500 ft. antenna
10 dbk (10 kw)/500 ft. antenna
3 dbk (2 kw)/500 ft. antenna
0 dbk (1 kw)/300 ft. antenna

No minimum antenna height is specified. Where antenna heights differ from those listed above, the Grade A field intensity coverage shall not be less than that resulting from the use of the minimum powers with the antenna heights shown above. Equivalent coverage shall be based on the chart designated as Appendix C, Figure 1; however, the effective radiated power may not exceed the figures specified in subparagraph (b) below. In no event shall less than 0 dbk effective radiated power be authorized for any station.

(b) **Maximum power**—Except as provided in subparagraph (1) below, the maximum effective radiated powers of television broadcast stations operating on the channels set forth below with antenna heights not in excess of 2,000 feet above average terrain shall be as follows:

Channel Nos.	Maximum Effective Radiated Power in db above one kilowatt (dbk)
2-6	20 dbk (100 kw)
7-13	25 dbk (316 kw)
14-83	30 dbk (1000 kw)

(1) In Zone I, on Channels 2-13 inclusive, the maximum powers specified above for these channels may be used only with antenna heights not in excess of 1000 feet above average terrain. Where antenna heights exceeding 1000 feet above average terrain are used on Channels 2-13, or antenna heights exceeding 2000 feet above average terrain are used on Channels 14-83, the maximum power shall be based on the chart designated as Appendix C, Figure 2a.

(2) In Zones II and III, the maximum powers which may be used by television broadcast stations operating on the respective channels set forth in the above table with antenna heights exceeding 2000 feet above average terrain shall be based on the chart designated as Appendix C, Figure 2b.

Applications and Authorizations

3.621. **Noncommercial educational stations.** In addition to the other provisions of this Subpart, the following shall be applicable to noncommercial educational television broadcast stations:

(a) Except as provided in subparagraph (c) below, noncommercial educational broadcast stations will be licensed only to nonprofit educational organizations upon a showing that the proposed stations will be used primarily to serve the educational needs of the community; for the advancement of educational programs, and to furnish a nonprofit and noncommercial television broadcast service.

(1) In determining the eligibility of publicly supported educational organizations, the accreditation of their respective state departments of education shall be taken into consideration.

(2) In determining the eligibility of privately controlled educational organizations, the accreditation of state departments of education or recognized regional and national educational accrediting organizations shall be taken into consideration.

(b) Where a municipality or other political subdivision has no independently constituted educational organization such as, for example, a board of education having autonomy with respect to carrying out the municipality's educational program, such municipality shall be eligible for a noncommercial educational television broadcast station. In such circumstances, a full and detailed showing must be made that a grant of the application will be consistent with the intent and purpose of the Commission's Rules relating to such stations.

(c) Noncommercial educational television broadcast stations may transmit educational, cultural and entertainment programs, and programs designed for use by schools and school systems in connection with regular school courses, as well as routine and administrative material pertaining thereto.

(d) An educational station may not broadcast programs for which a consideration is received, except programs produced by or at the expense of or furnished by others than the licensee for which no other consideration than the furnishing of the program is received by the licensee. The payment of line charges by another station or network shall not be considered as being prohibited by this subparagraph.

(e) To the extent applicable to programs broadcast by a noncommercial educational station produced by or at the expense of or furnished by others than the licensee of said station, the provisions of Section 3.654 relating to announcements regarding sponsored programs shall be applicable, except that no announcements (visual or aural) promoting the sale of a product or service shall be transmitted in connection with any program; provided, however, that where a sponsor's name or product appears on the visual image during the course of a simultaneous or rebroadcast program either on the backdrop or in similar form, the portions of the program showing such information need not be deleted.

3.622. **Applications for television stations.** Applications for new stations or for modification of existing authorizations shall be filed on FCC Form 301; for licenses, on FCC Form 302; for renewal of licenses, on FCC Form 303. Separate applications shall be filed by each applicant for the voluntary sharing of television channels. Such applications shall be accompanied by copies of the time-sharing agreements under which the applicants propose to operate.

3.623. **Full disclosures.** Applications shall contain full and complete disclosures with regard to the real party or parties in interest, and their legal, technical, financial, and other qualifications, and as to all matters and things required to be disclosed thereby.

3.624. **Repetitious applications.** (a) Where an applicant has been afforded an opportunity to be heard with respect to a particular application for a new television broadcast station, or for change of existing service or facilities, and the Commission has, after hearing or default, denied the application or dismissed it with prejudice, the Commission will not consider another application for a station of the same class to serve in whole or in part the same area, by the same applicant or by his successor or assignee, or on behalf of or for the benefit of the original parties in interest, until after the lapse of 12 months from the effective date of the Commission's order.

(b) Where an appeal has been taken from the action of the Commission in denying a particular application, another application for the same class of broadcast station and for the same area, in whole or in part, filed by the same applicant or by his successor or assignee, or on behalf or for the benefit of the original parties in interest, will not be considered until the final disposition of such appeal.

3.625. **Installation of apparatus.** Applications for construction permits or modification thereof involving the installation of new transmitting apparatus should be filed at least 60 days prior to the contemplated installation.

3.626. **Period of construction.** Each construction permit will specify a maximum of 60 days from the date of granting thereof as the time within which construction of the station shall begin, and a maximum of 6 months thereafter as the time within which construction shall be completed and the station ready for operation, unless otherwise determined by the Commission upon proper showing in any particular case.

3.627. **Forfeiture of construction permits; extension of time.** (a) A construction permit shall be automatically forfeited if the station is not ready for operation within the time specified or within such further time as the Commission may have allowed for completion, and a notation of the forfeiture of any construction permit under this provision will be placed in the records of the Commission as of the expiration date.

(b) An application (FCC Form No. 701) for extension of time within which to construct a station shall be filed at least 30 days prior to the expiration date of such permit if the facts supporting such application for extension are known to the applicant in time to permit such filing. In other cases, such applications will be accepted upon a showing satisfactory to the Commission of sufficient reasons for filing within less than 30 days prior to the expiration date. Such applications will be granted upon a specific and detailed showing that the failure to complete was due to causes not under control of the grantee, or upon a specific and detailed showing of other matters sufficient to justify the extension.

(c) If a construction permit has been allowed to expire for any reason, application may be made for a new permit on FCC Form 321, "Application for Construction Permit to Replace Expired Permit."

3.628. **Equipment tests.** (a) During the process of construction of a television broadcast station, the permittee, after notifying the Commission and Engineer in Charge of the radio district in which the station is located may, without further authority of the Commission, conduct equipment tests for the purpose of such adjustments and measurements as may be necessary to assure compliance with the terms of the construction permit, the technical provisions of the application therefor, and the rules and regulations.

(b) The Commission may notify the permittee to conduct no tests or may cancel, suspend, or change the date for the beginning of equipment tests as and when such action may appear to be in the public interest, convenience, and necessity.

(c) Equipment tests may be continued so long as the construction permit shall remain valid.

(d) Inspection of a station will ordinarily be required during the equipment test period and before the commencement of program tests. After construction and after adjustments and measurements have been completed to show compliance with the terms of the construction permit, the technical provisions of the application therefor, and the rules and regulations, the permittee should notify the Engineer in Charge of the radio district in which the station is located that it is ready for inspection.

(e) The authorization for tests embodied in this section shall not be construed as constituting a license to operate but as a necessary part of the construction.

3.629. **Program tests.** (a) Upon completion of construction of a television broadcast station in accordance with the terms of the construction permit, the technical provisions of the application therefor, and the rules and regulations, and when an application for station license has been filed showing the station to be in satisfactory operating condition,[10] the permittee may request authority to conduct program tests: **Provided,** That such request shall be filed with the Commission at least ten (10) days prior to the date on which it is desired to begin such operation and that the Engineer in Charge of the radio district in which the station is located is notified.

(b) Program tests shall not commence until specific Commission authority is received. The Commission reserves the right to change the date of the beginning of such tests or to suspend or revoke the authority for program tests as and when such action may appear to be in the public interest, convenience, and necessity.

(c) Unless sooner suspended or revoked, the program test authority continues valid during Commission consideration of the application for license and during this period further extension of the construction permit is not required. Program test authority shall be automatically terminated by final determination upon the application for station license.

(d) All operation under program test authority shall be in strict compliance with the rules governing television broadcast stations and in strict accordance with representations made in the application for license pursuant to which the tests were authorized.

(e) The granting of program test authority shall not be con-

[10] All data necessary to show compliance with the terms and conditions of the construction permit must be filed with the license application.

strued as approval by the Commission of the application for station license.

3.630. **Normal license period.** (a) All television broadcast station licenses will be issued for a normal license period of one year. Licenses will be issued to expire at the hour of 3:00 a.m., eastern standard time, in accordance with the following schedule and at one year intervals thereafter."

(1) For stations located in Delaware, Pennsylvania, Tennessee, Kentucky, Indiana and Texas, August 1, 1951.

(2) For stations located in Maryland, District of Columbia, Virginia, West Virginia, Ohio, Michigan, Wyoming, Nevada, Arizona, Utah, New Mexico and Idaho, October 1, 1951.

(3) For stations located in North Carolina, South Carolina, Illinois, Wisconsin and California, December 1, 1951.

(4) For stations located in Florida, Puerto Rico, Virgin Islands, Iowa, Missouri, Washington, Oregon, Alaska and Hawaii, February 1, 1952.

(5) For stations located in Alabama, Georgia, Minnesota, North Dakota, South Dakota, Montana, Colorado, Connecticut, Maine, Massachusets, New Hampshire, Rhode Island and Vermont, April 1, 1952.

(6) For stations located in Arkansas, Louisiana, Mississippi, Kansas, Oklahoma, Nebraska, New Jersey and New York, June 1, 1952.

3.631. **Renewal of license.** (a) Unless otherwise directed by the Commission, each application for renewal of a television station license shall be filed at least 90 days prior to the expiration date of the license sought to be renewed (FCC Form No. 303). No application for renewal of a television broadcast station will be considered unless there is on file with the Commission the information currently required by SS 1.341-1.344, reference to which by date and file number shall be included in the application.

(b) Whenever the Commission regards an application for a renewal of a television station license as essential to the proper conduct of a hearing or investigation, and specifically directs that it be filed by a certain date, such application shall be filed within the time thus specified. If the licensee fails to file such application within the prescribed time, the hearing or investigation shall proceed as if such renewal application had been received.

[11]Renewals of licenses will be granted for the period specified in the rule: **Provided, however,** That if as a result of the transition from the present schedule to the proposed schedule the period for which a license is renewed is 4 months or less, the licensee may within 30 days of the expiration date of such renewed license file, in lieu of renewal application (FCC Form 303), a written application under oath for the next renewal of license which shall consist of (1) a request that its license be renewed and (2) a statement that no substantial changes have been made in its operations or in its plans for future operations since its last renewal application; or if changes have been made or proposed, a statement specifying such changes. Upon review of such statement, the Commission may grant a renewal of license for the full period provided for in the rule; or, if the Commission requires additional information, it may require the filing of renewal application (FCC Form 303).

3.632. **Temporary extension of station licenses.** Where there is pending before the Commission any application, investigation, or proceeding which, after hearing, might lead to or make necessary the modification of, revocation of, or the refusal to renew an existing television license, the Commission may, in its discretion, grant a temporary extension of such license: **Provided, however,** That no such temporary extension shall be construed as a finding by the Commission that the operation of any television station thereunder will serve public interest, convenience, and necessity beyond the express terms of such temporary extension of license: **And provided further,** That such temporary extension of license will in nowise affect or limit the action of the Commission with respect to any pending application or proceeding.

3.633. **License, simultaneous modification and renewal.** When an application is granted by the Commission necessitating the issuance of a modified license less than 60 days prior to the expiration date of the license sought to be modified, and an application for renewal of said license is granted subsequent or prior thereto (but within 30 days of expiration of the present license), the modified license as well as the renewal license shall be issued to conform to the combined action of the Commission.

3.634. **Assignment or transfer of control—(a) Voluntary.** Application for consent to voluntary assignment of a television station construction permit or license or for consent to voluntary transfer of control of a corporation holding a television station construction permit or license shall be filed with the Commission on FCC Form No. 314 (Assignment of License), FCC Form No. 315 (Transfer of Control) or FCC Form No. 316 (Short Form) at least 60 days prior to the contemplated effective date of assignment or transfer of control.

(b) **Pro forma.** Assignment or transfer application shall be filed on FCC Form 316 where:

(1) There is an assignment from an individual or individuals (including partnerships) to a corporation owned and controlled by such individuals or partnerships without any substantial change in their relative interests;

(2) There is an assignment from a corporation to its individual stock-holders without effecting any substantial change in the disposition of their interests.

(3) There is an assignment or transfer by which certain partners or stockholders retire but no new ones are brought in, provided that the interest transferred is not a controlling one;

(4) There is a corporate reorganization which involves no substantial change in the beneficial ownership of the corporation;

(5) There is an involuntary transfer to an Executive, Administrator or other court appointed officer caused by death or legal disability, except that this form does not cover assignments (or transfers) from the Executor, Administrator or other court appointed officers to the ultimate beneficiary;

(6) There is an assignment or transfer from a corporation to a wholly owned subsidiary thereof or vice versa, or where there is an assignment from a corporation to a corporation owned or controlled by the assignor stockholders without substantial change in their interests;

(7) There is an assignment of less than a controlling interest in a partnership.

(c) **Involuntary.** In the event of the death or legal disability of a permittee or licensee, or a member of a partnership, or a person directly or indirectly in control of a corporation, which is a permittee or licensee:

(1) The Commission shall be notified in writing promptly of the occurrence of such death or legal disability, and

(2) Within thirty days after the occurrence of such death or legal disability, application on FCC Form No. 316 shall be filed for consent to involuntary transfer of control of such corporation to a person or entity qualified to succeed to the foregoing interests under the laws of the place having jurisdiction over the estate involved.

3.635. **Use of common antenna site.** No television license or renewal of a television license will be granted to any person who owns, leases, or controls a particular site which is peculiarly suitable for television broadcasting in a particular area and (a) which is not available for use by other television licensees; and (b) no other comparable site is available in the area; and (c) where the exclusive use of such site by the applicant or licensee would unduly limit the number of television stations that can be authorized in a particular area or would unduly restrict competition among television stations.

3.636. **Multiple ownership.** (a) No person (including all persons under common control) [12] shall, directly or indirectly, own, operate, or control more than one television broadcast station that would serve substantially the same area as another television broadcast station owned, operated, or controlled by such person.

(b) No person (including all persons under common control) shall, directly or indirectly, own, operate, or control more than one television broadcast station, except upon a showing (1) that such ownership, operation, or control would foster competition among television broadcast stations or provide a television broadcasting service distinct and separate from existing services, and (2) that such ownership, operation, or control would not result in the concentration of control of television broadcasting facilities in a manner inconsistent with public interest, convenience, or necessity; **Provided however,** That the Commission will consider the ownership, operation, or control of more than five television broadcast stations to constitute the concentration of control of television broadcasting facilities in a manner inconsistent with public interest, convenience, or necessity.

(c) Subparagraphs (a) and (b) are not applicable to noncommercial educational stations.

[12]The word "control" as used herein is not limited to majority stock ownership but includes actual working control in whatever manner exercised.

3.637. **Alternate main transmitters.** The licensee of a television broadcast station may be licensed for alternate main transmitters provided that a technical need for such alternate transmitters is shown and that the following conditions are met:

(a) Both transmitters are located at the same place.

(b) Both transmitters shall have the same power rating.

(c) Both transmitters shall meet the construction, installation, operation and performance requirements of this Subpart.

3.638. **Auxiliary transmitter.** Upon showing that a need exists for the use of auxiliary transmitters in addition to the regular transmitters of a television station, a license therefor may be issued: **Provided, That:**

(a) Auxiliary transmitters may be installed either at the same location as the main transmitters or at another location.

(b) A licensed operator shall be in control whenever auxiliary transmitters are placed in operation.

(c) The auxiliary transmitters shall be maintained so that they may be put into immediate operation at any time for the following purposes:

(1) The transmission of the regular programs upon the failure of the main transmitters.

(2) The transmission of regular programs during maintenance or modification [13] work on the main transmitters necessitating discontinuance of their operation for a period not to exceed five days.

(3) Upon request by a duly authorized representative of the Commission.

(d) The auxiliary transmitters shall be tested at least once each week to determine that they are in proper operating condition and that they are adjusted to the proper frequency, except that in case of operation in accordance with paragraph (c) of this section during any week, the test in that week may be omitted provided the operation under paragraph (c) is satisfactory. A record shall be kept of the time and result of each test operation under paragraph (c).

(e) The auxiliary transmitters shall be equipped with satisfactory control equipment which will enable the maintenance of the frequency emitted by the station within the limits prescribed by the regulations in this Subpart.

(f) The operating power of an auxiliary transmitter may be less than the authorized power of the main transmitters, but in no event shall it be greater than such power.

3.639. **Changes in equipment and antenna system.** Licensees of television broadcast stations shall observe the following provisions with regard to changes in equipment and antenna system:

(a) No changes in equipment shall be made:

[13]This includes the equipment changes which may be made without authority as set forth elsewhere in the rules and regulations or as authorized by the Commission by letter or by construction permit. Where such operation is required for periods in excess of 5 days, request therefor shall be in accordance with Section 1.324 of the Commission's Rules.

(1) That would result in the emission of signals outside of the authorized channel.

(2) That would result in the external performance of the transmitter being in disagreement with that prescribed in this Subpart.

(b) Specific authority upon filing formal application therefor (FCC Form No. 301 or such other form as is provided therefor), is required for any of the following changes:

(1) Changes involving an increase or decrease in the power rating of the transmitters.

(2) A replacement of the transmitters as a whole.

(3) Change in the location of the transmitting antenna.

(4) Change in antenna system, including transmission line.

(5) Change in the power delivered to the antenna.

(6) Change in frequency control and/or modulation system.

(c) Other changes, except as above provided for in this section or in the provisions of this Subpart, may be made at any time without the authority of the Commission, provided that the Commission shall be promptly notified thereof and such changes shall be shown in the next application for renewal of license.

3.640. **Administrative changes in authorizations.** In the issuance of television broadcast station authorizations, the Commission will specify the transmitter power output and effective radiated power, when calculated to the figures in the ranges shown in Column (1) below, to the accuracy indicated by the corresponding figure in Column (2) below. Power in decibels will be specified to the nearest 0.1 dbk and antenna heights above average terrain will be specified to the nearest 10 feet. Midway figures will be authorized in the lower alternative.

Column 1	Column 2
0.1— 0.3 kw	0.005 kw
0.3— 1.0 kw	0.01 kw
1.0— 3.0 kw	0.05 kw
3 — 10.0 kw	0.1 kw
10 — 30.0 kw	0.5 kw
30 — 100.0 kw	1.0 kw
100 — 300.0 kw	5.0 kw
300 —1000.0 kw	10.0 kw

General Operating Requirements

3.651. Time of operation. (a) All television broadcast stations will be licensed for unlimited time operation. Each such station shall maintain a regular program operating schedule as follows: not less than two hours daily in any five broadcast days per week and not less than a total of twelve hours per week during the first eighteen months of the station's operation; not less than two hours daily in any five broadcast days per week and not less than a total of sixteen hours, twenty nours and twenty-four hours per week for each successive six month period of operation, respectively; and not less than two hours in each of the seven days of the week and not less than a total of twenty-eight hours per week thereafter. "Operation" includes the period during which a station is operated pursuant to special temporary authority or during program tests, as well as during the license period. Time devoted to test patterns, or to aural presentations accompanied by the incidental use of fixed visual images which have no substantial relationship to the subject matter of such aural presentations, shall not be considered in computing periods of program service. If, in the event of an emergency due to causes beyond the control of a licensee, it becomes impossible to continue operation, the Commission and the Engineer in Charge of the radio district in which the station is located shall be notified in writing immediately after the emergency develops and immediately after the emergency ceass and operation is resumed.

(b) Noncommercial educational television broadcast stations are not required to operate on a regular schedule and no minimum number of hours of operation is specified; but the hours of actual operation during a license period shall be taken into consideration in considering the renewal of non-commercial educational television broadcast licenses.

(c)(1) The aural transmitter of a television station shall not be operated separately from the visual transmitter except for the following purposes:

(i) For actual tests of station equipment or actual experimentation in accordance with Section 3.666; and

(ii) For emergency "fills" in case of visual equipment failure or unscheduled and unavoidable delays in presenting visual programs. In such situations the aural transmitter may be used to advise the audience of difficulties and to transmit for a short period program material of such nature that the audience will be enabled to remain tuned to the station; for example, music or news accompanying a test pattern or other visual presentation.

(2) During periods of transmission of a test pattern on the visual transmitter of a television station, aural transmission shall consist only of a single tone or series of variable tones. During periods when still pictures or slides are employed to produce visual transmissions which are accompanied by aural transmissions, the aural and visual transmissions shall be integral parts of a program or announcement and shall have a substantial relationship to each other: **Provided,** That nothing herein shall preclude the transmission of a test pattern, still pictures or slides for the following purposes and periods:

(i) To accompany aural announcements of the station's program schedule and aural news broadcasts or news commentaries, for a total period not to exceed one hour in any broadcast day.

(ii) To accompany aural transmissions for a period of time not to exceed fifteen minutes immediately prior to the commencement of a programming schedule.

Examples: (1) Duplication of AM or FM programs on the aural transmitter of a television station while the same program is broadcast on the visual transmitter (i.e., a "simulcast") is consistent with this paragraph.

(2) Duplication of AM or FM programs on the aural transmitter of a television station while a test pattern is broadcast on the visual transmitter is not consistent with this paragraph, except for the specific purposes and periods specified in paragraph (b)(2).

(3) A travel lecture in which the words of the lecturer are broadcast simultaneously with still pictures or slides of scenes illustrating the lecture, and a newscast in which the words of the newscaster are broadcast simultaneously with still pictures or slides of the news events, are examples of programs in which the aural and visual transmissions are integral parts of the same program having a substantial relationship to each other, within the meaning of paragraph (b) (2). Mood music unrelated to the visual transmission is not consistent with this paragraph.

(4) The broadcast of a test pattern accompanied by a musical composition for the purpose of demonstration, sale, installation or orientation of television receivers, or receiving antennas is not consistent with this paragraph.

(5) Music accompanying the transmission of a test pattern upon which is visually imposed a moving text consisting of continuous program material, such as a running newscast or news commentary, is consistent with this paragraph.

(6) Music accompanying the transmission of a test pattern upon which is visually imposed a clock indicating the time of day, or a text that is changed at spaced intervals, is not consistent with this paragraph.

3.652. **Station identification.** (a) A licensee of a television broadcast station shall make station identification announcement (call letters and location) at the beginning and ending of each time of operation and during the operation on the hour. The announcement at the beginning and ending of each time of operation shall be by both aural and visual means. Other announcements may be by either aural or visual means.

(b) Identification announcements during operation need not be made when to make such announcement would interrupt a single consecutive speech, play, religious service, symphony concert, or any type of production. In such cases, the identification announcement shall be made at the first interruption of the entertainment continuity and at the conclusion thereof.

3.653. **Mechanical reproductions.** (a) Each program which consists in whole or in part of one or more mechanical reproductions, either visual or aural, shall be accompanied by an appropriate announcement to that effect either at the beginning or end of such reproduction or at the beginning or end of the program in which such reproduction is used. No such announcement shall be required where a mechanical reproduction is used for background music, sound effects, station identification, program identification (theme music of short duration) or identification of sponsorship of the program proper.

(b) The exact form of identifying announcement is not prescribed but the language shall be clear and in terms commonly used and understood. The licensee shall not attempt affirmatively to create the impression that any program being broadcast by mechanical reproduction consists of live talent.

3.654. **Sponsored programs, announcement.** (a) In the case of each program for the broadcasting of which money, services, or other valuable consideration is either directly or indirectly paid or promised to, or charged or received by, any television broadcast station, the station broadcasting such program shall make, or cause to be made, an appropriate announcement that the program is sponsored, paid for, or furnished, either in whole or in part.

(b) In the case of any political program or any program involving the discussion of public controversial issues for which any films, records, transcriptions, talent, scripts, or other material or services of any kind are furnished, either directly or indirectly, to a station as an inducement to the broadcasting of such program, an announcement shall be made both at the beginning and conclusion of such program on which such material or services are used that such films, records, transcriptions, talent, scripts, or other material or services have been furnished to such station in connection with the broadcasting of such program: **Provided, however,** That only one such announcement need be made in the case of any such program of 5 minutes' duration or less, which announcement may be made either at the beginning or conclusion of the program.

(c) The announcement required by this section shall fully and fairly disclose the true identity of the person or persons by whom or in whose behalf such payment is made or promised, or from whom or in whose behalf such services or other valuable consideration is received, or by whom the material or services referred to in paragraph (b) of this section are furnished. Where an agent or other person contracts or otherwise makes arrangements with a station on behalf of another, and such fact is known to the station, the announcement shall disclose the identity of the person or persons in whose behalf such agent is acting instead of the name of such agent.

(d) In the case of any program, other than a program advertising commercial products or services, which is sponsored, paid for or furnished, either in whole or in part, or for which material or services referred to in paragraph (b) of this section are furnished, by a corporation, committee, association or other unincorporated group, the announcement required by this section shall disclose the name of such corporation, committee, association or other unincorporated group. In each such case the station shall require that a list of the chief executive officers or members of the executive committee or of the board of directors of the corporation, committee, association or other unincorporated group shall be made available for public inspection at one of the television broadcast stations carrying the program.

(e) In the case of programs advertising commercial products or services, an announcement stating the sponsor's corporate or trade name or the name of the sponsor's product shall be deemed sufficient for the purposes of this section

and only one such announcement need be made at any time during the course of the program.

3.655. **Rebroadcast.** (a) The term "rebroadcast" as used below means reception by radio of the program [14] of a television broadcast station, and the simultaneous or subsequent retransmission of such programs by a broadcast station. The broadcasting of a program relayed by an auxiliary broadcast station licensed to the television broadcast station is not considered a rebroadcast.

(b) The licensee of a television broadcast station may, without further authority of the Commission, rebroadcast the program of a United States television broadcast station, provided the Commission is notified of the call letters of each station rebroadcast and the licensee certifies that express authority has been received from the licensee of the station originating the program.[15]

(c) No licensee of a television broadcast station shall rebroadcast the program of any United States radio station not designated in paragraph (b) of this section without written authority having first been obtained from the Commission upon application (informal) accompanied by written consent or certification of consent of the licensee of the station originating the program.[16]

3.656. **Lotteries and give-away programs.**[17] (a) An application for construction permit, license, renewal of license, or any other authorization for the operation of a television broadcast station, will not be granted where the applicant proposes to follow or continue to follow policy or practice of broadcasting or permitting "the broadcasting of any advertisement of or information concerning any lottery, gift enterprise, or similar scheme, offering prizes dependent in whole or in part upon lot or chance, or any list of the prizes drawn or awarded by means of any such lottery, gift enterprise, or scheme, whether said list contains any part or all of such prizes." (See 18 U.S.C. sec. 1304.)

(b) The determination whether a particular program comes within the provisions of paragraph (a) of this section depends on the facts of each case. However, the Commission will in any event consider that a program comes within the provisions of paragraph (a) of this section if in connection with such program a prize consisting of money or thing of value is awarded to any person whose selection is dependent in whole or in part upon lot or chance, if as a condition of winning or competing for such prize:

(1) Such winner or winners are required to furnish any money or thing of value or are required to have in their possession any product sold, manufactured, furnished or distributed by a sponsor of a program broadcast on the station in question; or

(2) Such winner or winners are required to be listening to or viewing the program in question on a radio or television receiver; or

(3) Such winner or winners are required to answer correctly a question, the answer to which is given on a program broadcast over the station in question or where aid to answering the question correctly is given on a program broadcast over the station in question. For the purposes of this provision the broadcasting of the question to be answered over the television station on a previous program will be considered as an aid in answering the question correctly; or

(4) Such winner or winners are required to answer the phone in a prescribed manner or with a prescribed phrase, or are required to write a letter in a prescribed manner or containing a prescribed phrase, if the prescribed manner of answering the phone or writing the letter or the prescribed phrase to be used over the phone or in the letter (or an aid in ascertaining the prescribed phrase or the prescribed manner of answering the phone or writing the letter) is, or has been, broadcast over the station in question.

3.657. **Broadcasts by candidates for public office**—(a) **Legally qualified candidate.** A "legally qualified candidate" means any person who has publicly announced that he is a candidate for nomination by a convention of a political party or for nomination or election in a primary, special, or general election, municipal, county, state or national, and who meets the qualifications prescribed by the applicable laws to hold the office for which he is a candidate, so that he may be voted for by the electorate directly or by means of delegates or electors, and who:

(1) Has qualified for a place on the ballot, or

(2) Is eligible under the applicable law to be voted for by sticker, by writing in his name on the ballot, or other method, and (i) has been duly nominated by a political party which is commonly known and regarded as such, or (ii) makes a substantial showing that he is a bona fide candidate for nomination or office, as the case may be.

(b) **General requirements.** No station licensee is required to permit the use of its facilities by any legally qualified candidate for public office, but if any licensee shall permit any such candidate to use its facilities, it shall afford equal opportunities to all other such candidates for that office to use such facilities: **Provided,** That such licensee shall have no power of censorship over the material broadcast by any such candidate.

(c) **Rates and practices.** The rates, if any, charged all such candidates for the same office shall be uniform and shall not be rebated by any means, directly or indirectly; no licensee shall make any discrimination in charges, practices, regulations, facilities, or services for or in connection with the service rendered pursuant to the regulations in this part, or make or give any preference to any candidate for public office or subject any such candidate to any prejudice or disadvantage; nor shall any licensee make any contract or other agreement which shall have the effect of permitting any legally qualified candidate for any public office to broadcast to the exclusion of other legally qualified candidates for the same public office.

(d) **Inspection of records.** Every licensee shall keep and permit public inspection of a complete record of all requests for broadcast time made by or on behalf of candidates for public office, together with an appropriate notation showing the disposition made by the licensee of such requests, and the charges made, if any, if request is granted.

3.658. **Affiliation agreements.**—(a) **Exclusive affiliation of station.** No license shall be granted to a television broadcast station having any contract, arrangement, or understanding, express or implied, with a network organization [18] under which the station is prevented or hindered from, or penalized for, broadcasting the programs of any other network organization.

(b) **Territorial exclusivity.** No license shall be granted to a television broadcast station having any contract, arrangement, or understanding, express or implied, with a network organization which prevents or hinders another broadcast station serving substantially the same area from broadcasting the network's programs not taken by the former station, or which prevents or hinders another broadcast station serving a substantially different area from broadcasting any program of the network organization. This regulation shall not be construed to prohibit any contract, arrangement, or understanding between a station and a network organization pursuant to which the station is granted the first call in its area upon the programs of the network organization.

(c) **Term of affiliation.** No license shall be granted to a television broadcast station having any contract, arrangement, or understanding, express or implied, with a network organization which provides, by original terms, provisions for renewal, or otherwise for the affiliation of the station with the network organization for a period longer than 2 years: **Provided,** That a contract, arrangement, or understanding for a period up to 2 years may be entered into within 6 months prior to the commencement of such period.

(d) **Option time.** No license shall be granted to a television broadcast station which options [19] for network programs any time subject to call on less than 56 days' notice, or more time than a total of 3 hours [20] within each of four segments of the broadcast day, as herein described. The broadcast day is divided into four segments, as follows: 8 a.m. to 1 p.m.; 1 p.m. to 6 p.m.; 6 p.m. to 11 p.m.; 11 p.m. to 8 a.m.[21] Such options may not be exclusive as against other network organizations and may not prevent or hinder the station from optioning or selling any or all of the time covered by the option, or other time, to other network organizations.

(e) **Right to reject programs.** No license shall be granted to a television broadcast station having any contract, arrangement, or understanding, express or implied, with a network organization which (a), with respect to programs offered pursuant to an affiliation contract, prevents or hinders the station from rejecting or refusing network programs which the station reasonably believes to be unsatisfactory or unsuitable; or which (b) with respect to network programs so offered or already contracted for, prevents the station from rejecting or refusing any program which, in its opinion, is contrary to the public interest, or from substituting a program of outstanding local or national importance.

(f) **Network ownership of stations.** No license shall be granted to a network organization, or to any person directly or indirectly controlled by or under common control [22] of a network organization, for a television broadcast station in any locality where the existing television broadcast stations are so few or of such unequal desirability (in terms of coverage, power, frequency, or other related matters) that competition would be substantially restrained by such licensing.

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[14] As used in this section, program includes any complete program or part thereof.

[15] The notice and certification of consent shall be given within 3 days of any single rebroadcast, but in case of the regular practice of rebroadcasting certain programs of a television broadcast station several times during a license period, notice and certification of consent shall be given for the ensuing license period with the application for renewal of license, or at the beginning of such rebroadcast practice if begun during a license period.

[16] By Order No. 82, dated and effective June 24, 1941, until further order of the Commission, Section 3.655(c) is suspended only insofar as it requires prior written authority of the Commission for the rebroadcasting of programs originated for that express purpose by U.S. Government radio stations.

[17] The Commission on September 21, 1949, adopted an order which read in part as follows:

It is **ordered**, That, effective immediately, the effective date of Sections 3.192, 3.292 and 3.692 [now Section 3.656] of the Commission's rules is hereby postponed until a date to be fixed by further order, which shall be at least thirty days after a final decision by the Supreme Court of the United States, or thirty days after the time within which an appeal to the Supreme Court may be taken has expired without such an appeal being taken, in pending litigation with respect to these rules.

[18] The term "network organization" as used herein includes national and regional network organizations. See ch. VII, J. of Report on Chain Broadcasting.

[19] As used in this section, an option is any contract, arrangement, or understanding, express or implied, between a station and a network organization which prevents or hinders the station from scheduling programs before the network agrees to utilize the time during which such programs are scheduled, or which requires the station to clear time already scheduled when the network organization seeks to utilize the time.

[20] All time options permitted under this section must be specified clock hours, expressed in terms of any time system set forth in the contract agreed upon by the station and network organization. Shifts from daylight saving to standard time or vice versa may or may not shift the specified hours correspondingly as agreed by the station and network organization.

[21] These segments are to be determined for each station in terms of local time at the location of the station but may remain constant throughout the year regardless of shifts from standard to daylight saving time or vice versa.

[22] The word "control" as used in this section, is not limited to full control but includes such a measure of control as would substantially affect the availability of the station to other networks.

(g) **Dual network operation.** No license shall be issued to a television broadcast station affiliated with a network organization which maintains more than one network of television broadcast stations: **Provided,** That this section shall not be applicable if such networks are not operated simultaneously, or if there is no substantial overlap in the territory served by the group of stations comprising each such network.

(h) **Control by networks of station rates.** No license shall be granted to a television broadcast station having any contract, arrangement, or understanding, express or implied, with a network organization under which the station is prevented or hindered from, or penalized for, fixing or altering its rates for the sale of broadcast time for other than the network's programs.

3.659. **Special rules relating to contracts providing for reservation of time upon sale of a station.** (a) No license, renewal of license, assignment of license, or transfer of control of a corporate licensee shall be granted or authorized to a television broadcast station which has a contract, arrangement or understanding, express or implied, pursuant to which, as consideration or partial consideration for the assignment of license or transfer of control, the assignor of a station license or the transferor of stock, where transfer of a corporate licensee is involved, or the nominee of such assignor or transferor retains any right of reversion of the license or any right to the reassignment of the license in the future, or reserves the right to use the facilities of the station for any period whatsoever.

(b) In the case of assignment of license or transfer of control of a corporate licensee approved by the Commission before the effective date of this section, February 15, 1949, involving a contract, arrangement or understanding of the type covered by paragraph (a) of this section and the existence and terms of which were fully disclosed to the Commission at the time of execution, the Commission will give consideration to the issuance of a license despite the existence of such contract, arrangement or understanding, if the parties thereto modify such contract within 6 months from the effective date of this section. Such modifications will be considered on the facts of each case but no such modification will be approved unless the modified contract contains at least the following provisions:

(1) A maximum limitation of the time subject to reservation so that no more than 12 hours per week shall be subject to reservation, of which no more than 4 hours shall be on any given day.

(2) A clause providing that the licensee reserves the right to reject or refuse programs which he reasonably believes to be unsatisfactory or unsuitable or for which, in his opinion, a program of outstanding local or national importance should be substituted, but provision may be made for the substitution of other television time for programs so rejected or for the payment at the station card rate for the time made unavailable.

(3) A prohibition against the resale or reassignment of any of the broadcast time reserved by such modified contract.

(4) An express negation of any right with respect to reversion or reassignment of license.

(5) An express provision setting forth a definite expiration date of the contract, arrangement or understanding. Such expiration date shall not extend beyond February 15, 1964, and shall in no event extend beyond the expiration date originally provided for in any such contract, agreement or understanding, in the event that such expiration date is a date prior to February 15, 1964.

(6) An express provision giving to the licensee the right to terminate the contract, arrangement or understanding for substantial cause, including, but not limited to the assignment of license or the transfer of control of a corporate licensee, consistent disagreement over programs between the parties, or the acquisition of a network affiliation by the licensee, upon the payment of a lump sum or periodic payments, and providing that the amount initially fixed shall thereafter decrease as the amount of time reserved is decreased by performance of the contract. Any such payment should not be so unduly large as to constitute in practice an effective deterrent to the licensee exercising the right. In determining whether the amount is unduly large, the Commission will consider the amount by which consideration in return for the transfer of the station was decreased by reason of the reservation of time or the present value of the television time still reserved and unused as of the date of the exercise of the right of termination.

3.660. **Station license, posting of.** The original of each station license shall be posted in the transmitter room.

3.661. **Operator requirements.** One or more licensed radio-telephone first class operators shall be on duty at the place where the transmitting apparatus of each station is located and in actual charge thereof whenever it is being operated. The original license (or FCC Form No. 759) of each station operator shall be posted at the place where he is on duty. The licensed operator on duty and in charge of a television broadcast transmitter may, at the discretion of the licensee, be employed for other duties or for the operation of another station or stations in accordance with the class of operator's license which he holds and by the rules and regulations governing such stations. However, such duties shall in nowise interfere with the operation ofthe broadcast transmitter.

3.662. **Inspection of tower, lights and associated control equipment.** The licensee or permittee of any television broadcast station which has an antenna structure requiring illumination pursuant to the provisions of Section 303(q) of the Communications Act of 1934, as amended:

(a) (1) Shall make an observation of the tower lights at least once each 24 hours either visually or by observing an automatic and properly maintained indicator designed to register any failure of such lights, to insure that all such lights are functioning properly as required; or alternatively,

(2) Shall provide and properly maintain an automatic alarm system designed to detect any failure of such lights and to provide indication of such failure to the licensee.

(b) Shall report immediately by telephone or telegraph to the nearest Airways Communication Station or office of Civil Aeronautics Administration any observed or otherwise known failure of a code or rotating beacon light or top light not corrected within thirty minutes, regardless of the cause of such failure. Further notification by telephone or telegraph shall be given immediately upon resumption of the required illumination.

(c) Shall inspect at intervals not to exceed three months all automatic or mechanical control devices, indicators and alarm systems associated with the tower lighting to insure that such apparatus is functioning properly.

3.663 **Logs; Maintenance of.** The licensee or permittee of each television station shall maintain program and operating logs and shall require entries to be made as follows:

(a) In the program log:

(1) An entry of the time each station identification announcement (call letters and location) is made.

(2) An entry briefly describing each program broadcast, such as "music," "drama," "speech," etc., together with the name or title thereof and the sponsor's name, with the time of the beginning and ending of the complete program. If a mechanical reproduction, either visual or aural, is used, the entry shall show the exact nature thereof and the time it is announced as a mechanical reproduction. If a speech is made by a political candidate, the name and political affiliations of such speaker shall be entered.

(3) An entry showing that each sponsored program broadcast has been announced as sponsored, paid for, or furnished by the sponsor; or that the broadcast is under the auspices of a non-profit educational organization other than the licensee or permittee.

(4) An entry showing, for each program of network origin, the name of the network originating the program.

(b) In the operating log:

(1) An entry of the time the station begins to supply power to the antenna, and the time it stops.

(2) An entry of the time the program begins and ends.

(3) An entry of each interruption to the carrier wave, its cause, and duration.

(4) An entry of the following each 30 minutes:

(i) Operating constants of last radio stage of the aural transmitter (total plate current and plate voltage).

(ii) Transmission line meter readings for both transmitters.

(iii) Frequency monitor readings.

(5) Log of experimental operation during experimental period (if regular operation is maintained during this period, the above logs shall be kept).

(i) A log must be kept of all operation during the experimental period. If the entries required above are not applicable thereto, then the entries shall be made so as to describe the operation fully.

(c) Where an antenna and antenna supporting structure(s) is required to be illuminated, the licensee or permittee shall make entries in the radio log as follows:

(1) The time the tower lights are turned on and off each day if manually controlled.

(2) The time the daily check of proper operation of the tower lights was made.

(3) In the event of any observed or otherwise known failure of a tower light:

(i) Nature of such failure.

(ii) Date and time the failure was observed, or otherwise noted.

(iii) Date, time and nature of the adjustments, repairs, or replacements that were made.

(iv) Identification of Airways Communication Station (Civil Aeronautics Administration) notified of the failure of any code or rotating beacon light not corrected within thirty minutes, and the date and time such notice was given.

(v) Date and time notice was given to the Airways Communication Station (Civil Aeronautics Administration) that the required illumination was resumed.

(4) Upon completion of the periodic inspection required at least once each three months:

(i) The date of the inspection and the condition of all tower lights and associated tower lighting control devices, indicators and alarm systems.

(ii) Any adjustments, replacements, or repairs made to insure compliance with the lighting requirements and the date such adjustments, replacements, or repairs were made.

3.664. (a) **Logs, retention of.** Logs of television broadcast stations shall be retained by the licensee or permittee for a period of two years; **Provided, however,** That logs involving communications incident to a disaster or which include communications incident to or involved in an investigation by the Commission and concerning which the licensee or permittee has been notified, shall be retained by the licensee or permittee until he is specifically authorized in writing by the Commission to destroy them; **Provided Further,** That logs incident to or involved in any claim or complaint of which the licensee or permittee has notice shall be retained by the licensee or permittee until such claim or complaint has been fully satisfied or until the same has been barred by statute limiting the time for the filing of suits upon such claims.

(b) **Logs, by whom kept.** Each log shall be kept by the person or persons competent to do so, having actual knowledge of the facts required, who shall sign the log when starting duty and again when

going off duty. The logs shall be made available upon request by an authorized representative of the Commission.

(c) **Log form.** The log shall be kept in an orderly manner, in suitable form, and in such detail that the data required for the particular class of station concerned are readily available. Key letters or abbreviations may be used if proper meaning or explanation is contained elsewhere in the log.

(d) **Correction of logs.** No log or portion thereof shall be erased, obliterated, or wilfully destroyed within the period of retention provided by the rules. Any necessary correction may be made only by the person originating the entry who shall strike out the erroneous portion, initial the correction made, and indicate the date of correction.

(e) **Rough logs.** Rough logs may be transcribed into condensed form, but in such case, the original log or memoranda and all portions thereof shall be preserved and made a part of the complete log.

3.665. **Station inspection.** The licensee of a television broadcast station shall make the station available for inspection by representatives of the Commission at any reasonable hour.

3.666. **Experimental operation.** Television broadcast stations may (upon informal application) conduct technical experimentation directed to the improvement of technical phases of operation and for such purposes may utilize a signal other than the standard television signal subject to the following conditions:

(a) That the licensee complies with the provisions of Section 3.651 with regard to the minimum number of hours of transmission with a standard television signal.

(b) That no transmissions are radiated outside of the authorized channel and subject to the condition that no interference is caused to the transmissions of a standard television signal by other television broadcast stations.

(c) No charges either direct or indirect shall be made by the licensee of a television broadcast station for the production or transmission of programs when conducting technical experimentation.

3.667. **Discontinuance of operation.** The licensee of each station shall notify the Commission in Washington, D. C., and the Engineer in Charge of the radio district where such station is located of permanent discontinuance of operation at least two days before operation is discontinued. The licensee shall, in addition, immediately forward the station license and other instruments of authorization to the Washington, D. C., office of the Commission for cancellation.

Technical Standards

3.681. **Definitions—**

(a) **Amplitude modulation (AM).** A system of modulation in which the envelope of the transmitted wave contains a component similar to the wave form of the signal to be transmitted.

(b) **Antenna height above average terrain.** The average of the antenna heights above the terrain from two to ten miles from the antenna. (In general, a different antenna height will be determined in each direction from the antenna. The average of these various heights is considered as the antenna height above average terrain.)

(c) **Antenna power gain.** The square of the ratio of the root-mean-square free space field intensity produced at one mile in the horizontal plane, in millivolts per meter for one kilowatt antenna input power to 137.6 mv/m. This ratio should be expressed in decibels (db). (If specified for a particular direction, antenna power gain is based on the field strength in that direction only.)

(d) **Aspect ratio.** The numerical ratio of the frame width to frame height, as transmitted.

(e) **Aural transmitter.** The radio equipment for the transmission of the aural signal only.

(f) **Black level.** The amplitude of the modulating signal corresponding to the scanning of a black area in the transmitted picture.

(g) **Center frequency (aural).**

(1) The average frequency of the emitted wave when modulated by a sinusoidal signal.

(2) The frequency of the emitted wave without modulation.

(h) **Color field.** Scanning through the picture area once in the chosen scanning pattern and in each of the primary colors. In the line interlaced scanning pattern of two to one, the scanning of the alternate lines of the picture area once in each of the primary colors.

(i) **Color frame.** Scanning all of the picture area once in each of the primary colors. In the line interlaced scanning pattern of two to one, a color frame consists of two color fields.

(j) **Color transmission.** The transmission of color television signals which can be reproduced with different values of hue, saturation, and luminance.

(k) **Effective radiated power.** The product of the antennae peak input power and the antenna power gain. This product should be expressed in kilowatts and in decibels above one kilowatt (dbk). (If specified for a particular direction, effective radiated power is based on the antenna power gain in that direction only. The licensed effective radiated power is based on the average antenna power gain for each horizontal plane direction.)

(l) **Field.** Scanning through the picture area once in the chosen scanning pattern and in a single color. In the line interlaced scanning pattern of two to one, the scanning of the alternate lines of the picture area once in a single color.

(m) **Frame.** Scanning all of the picture area once in a single color. In the line interlaced scanning pattern of two to one, a frame consists of two fields.

(n) **Free space field intensity.** The field intensity that would exist at a point in the absence of waves reflected from the earth or other reflecting objects.

(o) **Frequency modulation (FM).** A system of modulation where the instantaneous radio frequency varies in proportion to the instantaneous amplitude of the modulating signal (amplitude of modulating signal to be measured after pre-emphasis, if used) and the instantaneous radio frequency is independent of the frequency of the modulating signal.

(p) **Frequency swing.** The instantaneous departure of the frequency of the emitted wave from the center frequency resulting from modulation.

(q) **Interlaced scanning.** A scanning process in which successively scanned lines are spaced an integral number of line widths, and in which the adjacent lines are scanned during successive cycles of the field frequency.

(r) **Monochrome transmission.** The transmission of television signals which can be reproduced in gradations of a single color only.

(s) **Negative transmission.** Where a decrease in initial light intensity causes an increase in the transmitted power.

(t) **Peak power.** The power over a radio frequency cycle corresponding in amplitude to synchronizing peaks.

(u) **Percentage modulation.** As applied to frequency modulation, the ratio of the actual frequency swing to the frequency swing defined as 100 percent modulation, expressed in percentage. For the aural transmitter of television broadcast stations, a frequency swing of ±25 kilocycles is defined as 100 percent modulation.

(v) **Polarization.** The direction of the electric field as radiated from the transmitting antenna.

(w) **Positive transmission.** Where an increase in initial light intensity causes an increase in the transmitted power.

(x) **Progressive scanning.** A scanning process in which scanning lines trace one dimension substantially parallel to a side of the picture area and in which successively traced lines are adjacent.

(y) **Scanning.** The process of analyzing successively, according to a predetermined method, the light values of picture elements constituting the total picture area.

(z) **Scanning line.** A single continuous narrow strip of the picture area containing highlights, shadows, and halftones, determined by the process of scanning.

(aa) **Standard television signal.** A signal which conforms to the television transmission standards.

(bb) **Synchronization.** The maintenance of one operation in step with another.

(cc) **Television broadcast band.** The frequencies in the band extending from 54 to 890 megacycles which are assignable to television broadcast stations. These frequencies are 54 to 72 megacycles (channels 2 through 4), 76 to 88 megacycles (channels 5 and 6), 174 to 216 megacycles (channels 7 through 13), and 470 to 890 megacycles (channels 14 through 83).

(dd) **Television broadcast station.** A station in the television broadcast band transmitting simultaneous visual and aural signals intended to be received by the general public.

(ee) **Television channel.** A band of frequencies 6 megacycles wide in the television broadcast band and designated either by number or by the extreme lower and upper frequencies.

(ff) **Television transmission standards.** The standards which determine the characteristics of a television signal as radiated by a television broadcast station.

(gg) **Television transmitter.** The radio transmitter or transmitters for the transmission of both visual and aural signals.

(hh) **Vestigial sideband transmission.** A system of transmission wherein one of the generated sidebands is partially attenuated at the transmitter and radiated only in part.

(ii) **Visual frequency.** The frequency of the signal resulting from television scanning.

(jj) **Visual transmitter.** The radio equipment for the transmission of the visual signal only.

(kk) **Visual transmitter power.** The peak power output when transmitting a standard television signal.

3.682 **Transmission standards and changes**

(a) **Transmission standards**

(1) The width of the television broadcast channel shall be six megacycles per second.

(2) The visual carrier shall be located 4.5 megacycles lower in frequency than the aural center frequency.

(3) The aural center frequency shall be located 0.25 megacycles lower than the upper frequency limit of the channel.

(4) The visual transmission amplitude characteristic shall be in accordance with the chart designated as Appendix C, Figure 3.

(5) For monochrome transmission the number of scanning lines per frame shall be 525, interlaced two to one in successive fields. The frame frequency shall be 30, the field frequency 60, and the line frequency 15,750 per second.

(6) For color transmissions the number of scanning lines per frame shall be 405, interlaced two to one in successive fields of the same color. The frame frequency shall be 72, the field frequency 144, the color frame frequency 48, and the line frequency 29,160 per second.

(7) The aspect ratio of the transmitted television picture shall be 4 units horizontally to 3 units vertically.

(8) During active scanning intervals, the scene shall be scanned from left to right horizontally and from top to bottom vertically, at uniform velocities.

(9) A carrier shall be modulated within a single television channel for both picture and synchronizing signals, the two signals comprising different modulation ranges in amplitude, in accordance with the charts designated as Appendix C, Figures 3 and 4.

(10) A decrease in initial light intensity shall cause an increase in radiated power (negative transmission).

(11) The black level shall be represented by a definite carrier level, independent of light and shade in the picture.

(12) The pedestal level (normal black level) shall be transmitted at 75 percent (with a tolerance of plus or minus 2.5

percent) of the peak carrier amplitude.

(13) The level at maximum luminance shall be 15% or less of the peak carrier level.

(14) The signals radiated shall have horizontal polarization.

(15) A radiated power of the aural transmitter not less than 50 percent nor more than 150 percent of the peak radiated power of the video transmitter shall be employed.

(16) Variation of output. The peak-to-peak variation of transmitter output within one frame of video signal due to all causes, including hum, noise, and low-frequency response, measured at both synchronizing peak and pedestal level, shall not exceed 5 percent of the average synchronizing peak signal amplitude.[23]

(17) Black level. The black level should be made as nearly equal to the pedestal as the state of the art will permit. If they are made essentially equal, satisfactory operation will result and improved techniques will later lead to the establishment of the tolerance if necessary.[23]

(18) Brightness characteristics. The transmitter output shall vary in substantially inverse logarithmic relation to the brightness of the subject. No tolerances are set at this time.[23]

(19) The color sequence for color transmission shall be repeated in the order red, blue, green, in successive fields.

(20) The transmitter color characteristics for color transmission shall be such as to reproduce the transmitted colors as correctly as the state of the art will permit on a receiver having the following trichromatic co-efficients, based on the standardized color triangle of the International Commission on Illuminations:

Red	Blue	Green
x = 0.674	x = 0.122	x = 0.227
y = 0.326	y = 0.142	y = 0.694

When equal amplitudes of red blue, and green are transmitted, such a receiver will furnish a white corresponding to illuminant C with the trichromatic coefficients x = .310 and y = .316.

(b) **Changes in transmission standards.** The Commission will consider the question whether a proposed change or modification of transmission standards adopted for television would be in the public interest, convenience and necessity, upon petition being filed by the person proposing such change or modification, setting forth the following:

(1) The exact character of the change or modification proposed;

(2) The effect of the proposed change or modification upon all other transmission standards that have been adopted by the Commission for television broadcast stations;

(3) The experimentation and field tests that have been made to show that the proposed change or modification accomplishes an improvement and is technically feasible;

(4) The effect of the proposed change or modification in the adopted standards upon operation and obsolescence of receivers;

(5) The change in equipment required in existing television broadcast station for incorporating the proposed change or modification in the adopted standards; and

(6) The facts and reasons upon which the petitioner bases his conclusion that the proposed change or modification would be in the public interest, convenience, and necessity.

Should a change or modification in the transmission standards be adopted by the Commission, the effective date thereof will be determined in the light of the considrations mentioned in subparagraph (4) above.

3.683 **Field intensity contours.** (a) In the authorization of television broadcast stations, two field intensity contours are considered. These are specified as Grade A and Grade B and indicate the approximate extent of coverage over average terrain in the absence of interference from other television stations. Under actual conditions, the true coverage may vary greatly from these estimates because the terrain over any specific path is expected to be different from the average terrain on which the field strength charts were based. The required field intensities, F(50, 50), in decibels above one microvolt per meter (dbu) for the Grade A and Grade B contours are as follows:[24]

	Grade A	Grade B
Channels 2- 6	68 dbu	47 dbu
Channels 7-13	71 dbu	56 dbu
Channels 14-83	74 dbu	64 dbu

(b) The field intensity contours provided for herein shall be considered for the following purposes only:

(1) In the estimation of coverage resulting from the selection of a particular transmitter site by an applicant for a television station.

(2) In connection with problems of coverage arising out of application of Section 3.636 of the Rules.

(3) In connection with problems of coverage arising out of application of Section 3.658(b) of the Rules.

(4) In determining compliance with Section 3.658(a) of the Rules concerning the minimum field intensity to be provided over the principal community to be served.

3.684 **Prediction of coverage**

(a) All predictions of coverage made pursuant to this paragraph shall be made without regard to interference and shall be made only on the basis of estimated field intensities. The peak power of the visual signal is used in making predictions of coverage.

(b) Predictions of coverage shall be made only for the same purposes as relate to the use of field intensity contours as specified in Section 3.683(b).

(c) In predicting the distance to the field intensity contours, the F (50,50) field intensity charts (Appendix C, Figures 5 and 6) shall be used. If the 50% field intensity is defined as that value exceeded for 50% of the time, these F(50,50) charts give the estimated 50% field intensities exceeded at 50% of the locations in decibels above one microvolt per meter. The charts are based on an effective power of one kilowatt radiated from a half-wave dipole in free space, which produces an unattenuated field strength at one mile of about 103 db above one microvolt per meter (137.6 millivolts per meter). To use the charts for other powers, the sliding scale associated with the charts should be trimmed and used as the ordinate scale. This sliding scale is placed on the charts with the appropriate gradation for power in line with the horizontal 40 db line on the charts. The right edge of the scale is placed in line with the appropriate antenna height gradations, and the charts then become direct reading (in uv/m and in db above 1 uv/m) for this power and antenna height. Where the antenna height is not one of those for which a scale is provided, the signal strength or distance is determined by interpolation between the curves connecting the equidistant points. Dividers may be used in lieu of the sliding scale. In predicting the distance to the Grade A and Grade B field intensity contours, the effective radiated power to be used is that in the horizontal plane in the pertinent direction. In predicting other field intensities over areas not in the horizontal plane, the effective radiated power to be used is the power in the direction of such areas; the appropriate vertical plane radiation pattern must, of course, be considered in determining this power.

(d) The antenna height to be used with these charts is the height of the radiation center of the antenna above the average terrain along the radial in question. In determining the average elevation of the terrain, the elevations between 2 and 10 miles from the antenna site are employed. Profile graphs must be drawn for at least eight radials from the proposed antenna site. These profiles should be prepared for each radial beginning at the antenna site and extending to 10 miles therefrom. Normally, the radials are drawn for each 45° of azimuth; however, where feasible, the radials should be drawn for angles along which roads tend to follow. (The latter method may be helpful in obtaining topographical data where otherwise unavailable, and is particularly useful in connection with mobile field intensity measurements of the station and the correlation of such measurements with predicted field intensities.) In each case, one or more radials must include the principal city or cities to be served, particularly in cases of rugged terrain, even though the city may be more than 10 miles from the antenna site. The profile graph for each radial should be plotted by contour intervals of from 40 to 100 feet and, where the data permits, at least 50 points of elevation (generally uniformly spaced) should be used for each radial. In instances of very rugged terrain where the use of contour intervals of 100 feet would result in several points in a short distance, 200- or 400-foot contour intervals may be used for such distances. On the other hand, where the terrain is uniform or gently sloping the smallest contour interval indicated on the topographic map (see below) should be used, although only relatively few points may be available. The profile graphs should indicate the topography accurately for each radial, and the graphs should be plotted with the distance in miles as the abscissa and the elevation in feet above mean sea level as the ordinate. The profile graphs should indicate the source of the topographical data employed. The graph should also show the elevation of the center of the radiating system. The graph may be plotted either on rectangular coordinate paper on or special paper which shows the curvature of the earth. It is not necessary to take the curvature of the earth into consideration in this procedure, as this factor is taken care of in the charts showing signal intensities. The average elevation of the 8-mile distance between 2 and 10 miles from the antenna site should then be determined from the profile graph for each radial. This may be obtained by averaging a large number of equally spaced points, by using a planimeter, or by obtaining the median elevation (that exceeded for 50 percent of the distance) in sectors and averaging these values.

(e) In instances where it is desired to determine the area in square miles within the Grade A and Grade B field intensity contours, the area may be determined from the coverage map by planimeter or other approximate means. In computing such areas, exclude (i) areas beyond the borders of the United States, and (ii) large bodies of water, such as ocean areas, gulfs, sounds, bays, large lakes, etc., but not rivers.

(f) In cases where the terrain in one or more directions from the antenna site departs widely from the average elevation of the 2 to 10 mile sector, the prediction method may indicate contour distances that are different from what may be expected in practice. For example, a mountain ridge may indicate the practical limit of service although the prediction method may indicate otherwise. In such cases the prediction method should be followed, but a supplemental showing may be made concerning the contour distances as determined by other means. Such supplemental showing should describe the procedure employed and should include sample calculations. Maps of predicted coverage should include both the coverage as predicted by the regular method and as predicted by a supplemental method. When measurements of area are required, these should include the area obtained by the regular prediction method and the area obtained by the supplemental

[23] These items are subject to change but are considered the best practice under the present state of the art. They will not be enforced pending a further determination thereof.

[24] It should be realized that the F(50, 50) curves when used for Channels 14-83 are not based on measured data at distances beyond about 30 miles. Theory would indicate that the field intensities for Channels 14-83 should decrease more rapidly with distance beyond the horizon than for Channels 2-6, and modification of the curves for Channels 14-83 may be expected as a result of measurements to be made at a later date. For these reasons, the curves should be used with appreciation of their limitations in estimating levels of field intensity. Further, the actual extent of service will usually be less than indicated by these estimates due to interference from other stations. Because of these factors, the predicted field intensity contours give no assurance of service to any specific percentage of receiver locations within the distances indicated. In licensing proceedings these variations will not be considered.

method. In directions where the terrain is such that special problems may arise, a supplemental showing of expected coverage must be included together with a description of the method used in predicting such coverage. In special cases, the Commission may require additional information as to terrain and coverage.

(g) In the preparation of the profile graphs previously described, the elevations or contour intervals shall be taken from the United States Geological Survey Topographic Quadrangle Maps for all areas for which such maps are available. If such maps are not published for the area in question, the next best topographic information should be used. Topographic data may sometimes be obtained from State and municipal agencies. Data from Sectional Aeronautical Charts (including bench marks) or railroad depot elevations and highway elevations from road maps may be used where no better information is available. In cases where limited topographic data is available, use may be made of an altimeter in a car driven along roads extending generally radially from the transmitter site.

Ordinarily the Commission will not require the submission of topographical maps for areas beyond 15 miles from the antenna site, but the maps must include the principal city or cities to be served. If it appears necessary, additional data may be requested. United States Geological Survey Topographic Quadrangle Maps may be obtained from the Department of the Interior, Geological Survey, Washington, D. C. Sectional Aeronautical Charts are available from the Department of Commerce, Coast and Geodetic Survey, Washington, D. C.

3.685 **Transmitter location and antenna system.** (a) The transmitter location shall be chosen so that, on the basis of the effective radiated power and antenna height above average terrain employed, the following minimum field intensity in decibels above one microvolt per meter (dbu) will be provided over the entire principal community to be served:

Channels 2-6	Channels 7-13	Channels 14-83
74 dbu	77 dbu	80 dbu

(b) Location of the antenna at a point of high elevation is necessary to reduce to a minimum the shadow effect on propagation due to hills and buildings which may reduce materially the intensity of the station's signals. In general, the transmitting antenna of a station should be located at the most central point at the highest elevation available. To provide the best degree of service to an area, it is usually preferable to use a high antenna rather than a low antenna with increased transmitter power. The location should be so chosen that line-of-sight can be obtained from the antenna over the principal city or cities to be served; in no event should there be a major obstruction in this path. The antenna must be constructed so that it is as clear as possible of surrounding buildings or objects that would cause shadow problems. It is recognized that topography, shape of the desired service area, and population distribution may make the choice of a transmitter location difficult. In such cases, consideration may be given to the use of a directional antenna system, although it is generally preferable to choose a site where a nondirectional antenna may be employed.

(c) In cases of questionable antenna locations it is desirable to conduct propagation tests to indicate the field intensity expected in the principal city or cities to be served and in other areas, particularly where severe shadow problems may be expected. In considering applications proposing the use of such locations, the Commission may require site tests to be made. Such tests should be made in accordance with the measurement procedure hereafter described, and full data thereon must be supplied to the Commission. Test transmitters should employ an antenna having a height as close as possible to the proposed antenna height, using a balloon or other support if necessary and feasible. Information concerning the authorization of site tests may be obtained from the Commission upon request.

(d) Present information is not sufficiently complete to establish "blanket areas" of television broadcast stations. A "blanket area" is that area adjacent to a transmitter in which the reception of other stations is subject to interference due to the strong signal from this station. The authorization of station construction in areas where blanketing is found to be excessive will be on the basis that the applicant will assume full responsibility for the adjustment of reasonable complaints arising from excessively strong signals of the applicant's station or take other corrective action.

(e) A directional antenna is considered to be an antenna that is designed or altered for the purpose of obtaining a noncircular radiation pattern. Directional antennas may not be used for the purpose of reducing minimum mileage separation requirements but may be employed for the purpose of improving service or for the purpose of using a particular site; the provisions under which they may be authorized are as follows:

(1) Directional antennas with a ratio of minimum to maximum radiation in the horizontal plane of more than 10 decibels will not be permitted.

(2) The minimum effective radiated power in any horizontal direction shall meet the minimum power requirements of Section 3.614 and Appendix C, Figure 1.

(3) The effective radiated power in any horizontal or vertical direction may not exceed the maximum values permitted by Section 3.614 and Appendix C, Figures 2(a) and 2(b).

(4) The maximum effective radiated power in any direction above the horizon shall be as low as the state of the art permits and may not exceed the effective radiated power in the horizontal direction in the same vertical plane.

(f) Applications proposing the use of directional antenna systems must be accompanied by the following:

(1) Complete description of the proposed antenna system.

(2) Orientation of array with respect to true north; time phasing of fields from elements (degrees leading or lagging); space phasing of elements (in feet and degrees); and ratio of fields from elements.

(3) Horizontal and vertical plane radiation patterns showing the free space field intensity in millivolts per meter at one mile and the effective radiated power, in dbk, for each direction. The method by which the radiation patterns were computed or measured shall be fully described, including formulas used, equipment employed, sample calculations and tabulations of data. Sufficient vertical plane patterns shall be included to indicate clearly the radiation characteristics of the antenna above and below the the horizontal plane. The horizontal plane pattern shall be plotted on polar coordinate paper with reference to true north. The vertical plane patterns shall be plotted on rectangular coordinate paper with reference to the horizontal plane.

(4) Name, address, and qualifications of the engineer making the calculations.

(g) Applications proposing the use of television broadcast antennas within 200 feet of other television broadcast antennas operating on a channel within 20 percent in frequency of the proposed channel, or proposing the use of television broadcast antennas on channels 5 or 6 within 200 feet of FM broadcast antennas, must include a showing as to the expected effect, if any, of such proximate operation.

(h) Where simultaneous use of antennas or antenna structures is proposed, the following provisions shall apply:

(1) In cases where it is proposed to use a tower of a standard broadcast station as a supporting structure for a television broadcast antenna, an appropriate application for changes in the radiating system of the standard broadcast station must be filed by the licensee thereof. A formal application (FCC Form 301) will be required if the proposal involves substantial change in the physical height or radiation characteristics of the standard broadcast antennas; otherwise an informal application will be acceptable.[25] An application may be required for other classes of stations when the tower is to be used in connection with a television station.

(2) When the proposed television antenna is to be mounted on a tower in the vicinity of a standard broadcast directional array and it appears that the operation of the directional antenna system may be affected, an engineering study must be filed with the television application concerning the effect of the television antenna on the directional pattern. Readjustment and field intensity measurements of the standard broadcast station may be required following construction of the television antenna.

(i) The provisions of Part 17 of the Commission's Rules shall govern the construction, marking and lighting requirements of antenna structures used by television broadcast stations. In the event a common tower is used by two or more licensees or permittees for antenna and/or antenna supporting purposes, the licensee or permittee who is owner of the tower shall assume full responsibility for the installation and maintenance of any painting and/or lighting requirements. In the event of shared ownership, one licensee or permittee shall assume such responsibility and advise the Commission accordingly.

3.686. **Measurements for rule making purposes and upon request of the Commission.** (a) Except as provided for in Section 3.612 above, television broadcast stations shall not be protected against any type of interference or propagation effect. Persons desiring to submit testimony, evidence, or data to the Commission for the purpose of showing that the technical standards contained in this Subpart do not properly reflect any given types of interference or propagation effects may do so only in appropriate rule making proceedings to amend such technical standards. Persons making field intensity measurements for formal submission to the Commission in rule making proceedings, or making such measurements upon the request of the Commission, should comply with the procedure for making such measurements as outlined below:

(b) Measurements made to determine field intensities of television broadcast stations should be made with mobile equipment along roads which are as close and similar as possible to the radials showing topography which were submitted with the application for construction permit.[26] Suitable measuring equipment and a continuous recording device must be employed, the chart of which is either directly driven from the speedometer of the automobile in which the equipment is mounted or so arranged that distances and identifying landmarks can be readily noted. The measuring equipment must be calibrated against recognized standards of field intensity and so constructed that it will maintain an acceptable accuracy of measurement while in motion or when stationary. The equipment should be so operated that the recorder chart can be calibrated directly in field intensity in order to facilitate analysis of the chart. The receiving antenna must be horizontally polarized and should be nondirectional.

(c) Mobile measurements should be made with a minimum chart speed of 3 inches per mile and preferably 5 or 6 inches per mile. Locations shall be noted on the recorder chart as frequently as necessary to fix definitely the relation

[25] In case of doubt, an informal application (letter) together with complete engineering data should be submitted.

[26] Cluster and spot measurements may also be submitted, if accompanied by a complete showing of the procedures employed.

between the measured field intensity and the location. The time constant of the equipment should be such as to permit adequate analysis of the charts, and the time constant employed shall be shown. Measurements should be made to a point on each radial well beyond the particular contour under investigation.

(d) While making field intensity measurements either the visual or the aural transmitter may be used. If the visual transmitter is used, it is recommended that a black picture be transmitted or that the transmitter be operated at black level without synchronization peaks. Operation at a power somewhat less than black level is permissible but too great a reduction in power is not recommended due to the difficulty of recording weak signals. In any event, an appropriate factor shall be used to convert the readings obtained to the field strength that would exist on synchronization peaks while operating at the authorized power.

(e) After the measurements are completed, the recorder chart should be divided into not less than 15 sections on each equivalent radial from the station. The field intensity in each section of the chart should be analyzed to determine the field intensity received 50 percent of the distance (median field) throughout the section, and this median field intensity associated with the corresponding sector of the radial. The field intensity figures must be corrected for a receiving antenna elevation of 30 feet and for any directional effects of the automobile and receiving antenna not otherwise compensated. This data should be plotted for each radial, using log-log coordinate paper with distance as the abscissa and field intensity as the ordinate. A smooth curve should be drawn through these points (of median fields for all sectors) and this curve used to determine the distance of the desired contour. The distances obtained for each radial may then be plotted on the map of predicted coverage or on polar coordinate paper (excluding water areas, etc.) to determine the service and interference areas of a station.

(f) In certain cases the Commission may desire more information or recordings and in these instances special instructions will be issued.

(g) Data obtained in conjunction with field intensity measurements shall be submitted to the Commission in affidavit form in triplicate, including the following:

(1) Map or maps showing the roads or points where measurements were made, the service and/or interference areas determined by the prediction method and by the measurements, and any unusual terrain characteristics existing in these areas. The maps, preferably of a type showing topography in the area, should show the Grade A and Grade B field intensity contours.

(2) If a directional transmitting antenna is employed, a diagram on polar coordinate paper showing the predicted free space field intensity in millivolts per meter at one mile in all directions.

(3) A full description of the procedures and methods employed, including the type of equipment, the method of installation and operation, and calibration procedures.

(4) Complete data obtained during the survey, including calibration. (Only the original or one photostatic copy of the recording tapes, or representative samples, need be submitted.)

(5) Antenna system and power employed during the survey.

(6) Name, address, and qualifications of the engineer or engineers making the measurements.

3.687 **Transmitters and associated equipment.**

(a) **Visual transmitter.**

(1) The overall attenuation characteristics of the transmitter, measured in the antenna transmission line after the vestigial sideband filter (if used), shall not be greater than the following amounts below the ideal demodulated curve. (See Appendix C, Figure 7.)

2 db at 0.5 Mc
2 db at 1.25 Mc
3 db at 2.0 Mc
6 db at 3.0 Mc
12 db at 3.5 Mc

The curve shall be substantially smooth between these specified points, exclusive of the region from 0.75 Mc to 1.25 Mc.[27]

(2) The field strength or voltage of the lower sideband, as radiated or dissipated and measured as described in (3) below, shall not be greater than —20 db for a modulating frequency of 1.25 Mc or greater.[28]

(3) The attenuation characteristics of a visual transmitter shall be measured by application of a modulating signal to the transmitter input terminals in place of the normal composite television video signal. The signal applied shall be a composite signal composed of a synchronizing signal to establish peak output voltage plus a variable frequency sine wave voltage occupying the interval between synchronizing pulses. The axis of the sine wave in the composite signal observed in the output monitor shall be maintained at an amplitude 0.5 of the voltage at synchronizing peaks. The amplitude of the sine wave input shall be held at a constant value. This constant value should be such that at no modulating frequency does the maximum excursion of the sine wave, observed in the composite output signal monitor, exceed the value 0.75 of peak output voltage. The amplitude of the 100-kilocycle sideband shall be measured and designated zero db as a basis for comparison. The modulation signal frequency shall then be varied over the desired range and the field strength or signal voltage of the corresponding sidebands measured. As an alternate method of measuring, in those cases in which the automatic d-c insertion can be replaced by manual control, the above characteristic may be taken by the use of a video sweep generator and without the use of pedestal synchronizing pulses. The d-c level shall be set for midcharacteristic operation.[28]

(4) The radio frequency signal, as radiated, shall have an envelope as would be produced by a modulating signal in conformity with Appendix C, Figure 4, as modified by vestigial sideband operation specified by Appendix C, Figure 3.

(5) The time interval between the leading edges of successive horizontal pulses shall vary less than one half of one percent of the average interval.

(6) The rate of change of the frequency of recurrence of the leading edges of the horizontal synchronizing signals shall not be greater than 0.15 percent per second, the frequency to be determined by an averaging process carried out over a period of not less than 20, nor more than 100 lines, such lines not to include any portion of the vertical blanking signal.

(7) Sufficient monitoring equipment shall be employed to determine whether the visual signal complies with the requirements of this Subpart.

(b) **Aural transmitter.**

(1) The transmitter shall operate satisfactorily with a frequency swing of ±25 kilocycles, which is considered 100 percent modulation. It is recommended, however, that the transmitter be designed to operate satisfactorily with a frequency swing of at least ±40 kilocycles.

(2) The transmitting system (from input terminals of microphone pre-amplifier, through audio facilities at the studio, through telephone lines or other circuits between studio and transmitter, through audio facilities at the transmitter, and through the transmitter, but excluding equalizers for the the correction of deficiencies in microphone response) shall be capable of transmitting a band of frequencies from 50 to 15,000 cycles. Pre-emphasis shall be employed in accordance with the impedance-frequency characteristic of a series inductance-resistance network having a time constant of 75 microseconds. (See Appendix C, Figure 8.) The deviation of the system response from the standard pre-emphasis curve shall lie between two limits as shown by Appendix C, Figure 8. The upper of these limits shall be uniform (no deviation) from 50 to 15,000 cycles. The lower limit shall be uniform from 100 to 7,500 cycles, and three db below the upper limit; from 100 to 50 cycles the lower limit shall fall from three db limit at a uniform rate of one db per octave (4 db at 50 cycles); From 7,500 to 15,000 cycles the lower limit shall fall from 3 db limit at a uniform rate of two db per octave (5 db at 15,000 cycles).

(3) At any modulating frequency between 50 and 15,000 cycles and at modulation percentages of 25 percent, 50 percent, and 100 percent, the combined audio frequency harmonics measured in the output of the system shall not exceed the root-mean-square values given in the following table:

Modulation frequency	Distortion (Percent)
50 to 100 cycles	3.5
100 to 7,500 cycles	2.5
7,500 to 15,000 cycles	3.0

(i) Measurement shall be made employing 75 microsecond de-emphasis in the measuring equipment and 75 microsecond pre-emphasis in the transmitting equipment and without compression if a compression amplifier is employed. Harmonics shall be included to 30 kc.[29]

(ii) It is recommended that none of the three major divisions of the system (transmitter, studio to transmitter circuit, and audio facilities) contribute over one-half of these percentages, since at some frequencies the total distortion may become the arithmetic sum of the distortions of the divisions.

(4) The transmitting system output noise level (frequency modulation) in the band 50 to 15,000 cycles shall be at least 55 db below the audio frequency level representing a frequency swing of ±25 kc.[30]

(5) The transmitting system output noise level (amplitude modulation) in the band 50 to 15,000 cycles shall be at least 50 db below the level representing 100 percent amplitude modulation.[30]

(6) If a limiting or compressing amplifier is employed, pre-

[27] Output measurement shall be made with the transmitter operating into a dummy load of pure resistance and the demodulated voltage measured across this load. The ideal demodulated curve is that shown in Appendix C, Figure 7.

[28] Field strength measurements are desired. It is anticipated that these may not yield data which are consistent enough to prove compliance with the attenuation standards prescribed above. In that case, measurements with a dummy load of pure resistance, together with data on the antenna characteristics, shall be taken in place of overall field measurements. The "synchronizing signal" referred to in these paragraphs means either a standard synchronizing wave form or any pulse that will properly set the peak.

[29] Measurements of distortion using de-emphasis in the measuring equipment are not practical at the present time for the range 7,500 to 15,000 cycles for 25 and 50 percent modulation. Therefore, measurements should be made at 100 percent modulation and on at least the following modulating frequencies: 50, 100, 400, 1,000, 5,000, 10,000 and 15,000 cycles. At 25 and 50 percent modulation, measurements should be made on at least the following modulating frequencies: 50, 100, 400, 1,000 and 5,000 cycles.

[30] For the purpose of these measurements, the visual transmitter should be inoperative since the exact amount of noise permissible from that source is not known at this time.

caution should be maintained in its connection in the circuit due to the use of pre-emphasis in the transmitting system.

(7) A modulation monitor shall be in operation at the aural transmitter. The percentage of modulation of the aural transmissions shall be maintained as high as possible consisstent with good quality of transmission and good broadcast practice and in no case less than 85 percent nor more than 100 percent on peaks of frequent recurrence during any selection which normally is transmitted at the highest level of the program under consideration.

(c) **Requirements applicable to both visual and aural transmitters.**

(1) Automatic means shall be provided in the visual transmitter to maintain the carrier frequency within one kilocycle of the authorized frequency; automatic means shall be provided in the aural transmitter to maintain the carrier frequency within four kilocycles of the assigned aural carrier frequency or, alternatively, 4.5 megacycles above the actual visual carrier frequency within five kilocycles. When required by Section 3.606, the visual and aural carrier frequencies are to be offset in frequency by 10 kilocycles (plus or minus, as indicated) from the normal carrier frequencies.[31]

(2) The transmitters shall be equipped with suitable indicating instruments for the determination of operating power and with other instruments necessary for proper adjustment, operation, and maintenance of the equipment.

(3) Adequate provision shall be made for varying the output power of the transmitters to compensate for excessive variations in line voltage or for other factors affecting the output power.

(4) Adequate provisions shall be provided in all component parts to avoid overheating at the rated maximum output powers.

(5) Frequency monitors for the visual and aural transmitters, independent of the frequency control of the transmitters, shall be in operation at the transmitters.

(6) In the event the visual monitoring equipment, the aural modulation monitor, or the visual or aural frequency monitor becomes defective, the station may be operated without such equipment pending its repair or replacement for a period not in excess of 60 days without further authority of the Commission, Provided, That—

(i) Appropriate entries shall be made in the operating log of the station to show the date and time the equipment was removed from and restored to service.

(ii) The Engineer in Charge of the radio district in which the station is located shall be notified both immediately after the equipment is found to be defective and immediately after the repaired or replacement equipment has been installed and is functioning properly.

(iii) During the period when the station is operated without the aural modulation monitor or the visual monitoring equipment, the licensee shall provide other suitable means for insuring that the aural modulation is maintained within the tolerance prescribed in subparagraph b(7) above and that the visual signal is maintained in accordance with the requirements of this Subpart.

(iv) During the period when the station is operated without the visual or aural frequency monitor, the respective carrier frequency shall be compared with an external frequency source of known accuracy at sufficiently frequent intervals to insure that the frequency is maintained within the tolerance prescribed in (1) above. An entry shall be made in the station log as to the method used and the results thereof.

(v) If the conditions beyond the control of the licensee or permittee prevent the restoration of the monitor or monitoring equipment to service within the above allowed period, an informal request in accordance with Section 1.332(d) may be filed with the Engineer in Charge of the radio district in which the station is located for such additional time as may be required to complete repairs of the defective instrument or equipment.

(d) **Construction.** In general, the transmitters shall be mounted either on racks and panels or in totally enclosed frames protected as required by article 810 of the National Electrical Code,[32] and as set forth below:

(1) Means shall be provided for making all tuning adjustments, requiring voltages in excess of 350 volts to be applied to the circuit, from the front of the panels with all access doors closed.

(2) Proper bleeder resistors or other automatic means shall be installed across all the capacitor banks to lower any voltage which may remain accessible with access door open to less than 350 volts within two seconds after the access door is opened.

(3) All plate supply and other high voltage equipment, including transformers, filters, rectifiers and motor generators, shall be protected so as to prevent injury to operating personnel.

(i) Commutator guards shall be provided on all high voltage rotating machinery. Coupling guards should be provided on motor generators.

(ii) Power equipment and control panels of the transmitters shall meet the above requirements (exposed 220-volt A. C. switching equipment on the front of the power control panels is not recommended but is not prohibited).

(iii) Power equipment located at a television broadcast station not directly associated with the transmitters (not purchased as part of same), such as power distribution panels, are not subject to the provisions of this Subpart.

(4) The following provisions shall be applicable to metering equipment:

(i) All instruments having more than 1,000 volts potential to ground on the movement shall be protected by a cage or cover in addition to the regular case. (Some instruments are designed by the manufacturers to operate safely with voltages in excess of 1,000 volts on the movement. If it can be shown by the manufacturer's rating that the instrument will operate safely at the applied potential, additional protection is not necessary.)

(ii) In case the plate voltmeters are located on the low potential side of the multiplier resistors with the high potential terminal of the instruments at or less than 1,000 volts above ground, no protective case is required. However, it is good practice to protect voltmeters subject to more than 5,000 volts with suitable over-voltage protective devices across the instrument terminals in case the winding opens.

(iii) Transmission line meters and any other radio frequency instrument which may be necessary for the operator to read shall be so installed as to be read easily and accurately without the operator having to risk contact with circuits carrying high potential radio frequency energy.

(e) **Wiring and Shielding.**

(1) The transmitter panels or units shall be wired in accordance with standard practice, such as insulated leads properly cabled and supported, coaxial cables, or rigid bus bar properly insulated and protected.

(2) Wiring between units of the transmitters, with the exception of circuits carrying radio frequency energy or video energy, shall be installed in conduits or approved fiber or metal raceways to protect it from mechanical injury.

(3) Circuits carrying radio frequency or video energy between units shall be coaxial cables, two wire balanced lines, or properly shielded lines.

(4) All stages or units shall be adequately shielded and filtered to prevent interaction and radiation.

(5) The frequency and modulation monitors and associated radio frequency lines to the transmitter shall be thoroughly shielded.

(f) **Auxiliary transmitters.** Auxiliary transmitters may not exceed the power rating of the main transmitters. As a general guide, specifications for auxiliary transmitters should conform as much as possible to those of the main transmitters. No requirements are set forth at this time.

(g) **Installation.**

(1) The installation of transmitting equipment shall be made in suitable quarters.

(2) Suitable facilities shall be provided for the welfare and comfort of the operator.

[31] Television broadcast stations authorized as of April 1, 1952, are permitted a frequency tolerance of 0.002% from the assigned visual and aural carrier frequencies until April 1, 1953.

[32] The pertinent sections of article 810 of the National Electrical Code read as follows: "8191. General—Transmitters shall comply with the following:

"a. Enclosing. — The transmitter shall be enclosed in a metal frame or grille, or separated from the operating space by a barrier or other equivalent means, all metallic parts of which are effectually connected to ground.

"b. Grounding of controls.—All external metallic handles and controls accessible to the operating personnel shall be effectually grounded. No circuit in excess of 150 volts shall have any parts exposed to direct contact. A complete dead-front type of switchboard is preferred.

"c. Interlocks on doors.—All access doors shall be provided with interlocks which will disconnect all voltages in excess of 350 volts when any access door is opened."

(h) **Spare tubes.**

(1) A spare tube of every type employed in the transmitters and the frequency and modulation monitors shall be kept on hand at the equipment location. When more than one tube of any type is employed, the following table determines the number of spares of that type required:

Number of each type employed:	Spares required
1 or 2	1
3 to 5	2
6 to 8	3
9 or more	4

(2) An accurate circuit diagram and list of required spare tubes, as furnished by the manufacturer of the equipment, shall be supplied and retained at the transmitter location.

(i) **Operation.**

(1) Spurious emissions, including radio frequency harmonics, shall be maintained at as low a level as the state of the art permits.

(2) If a limiting or compression amplifier is used in conjunction with the aural transmitter, due operating precautions should be maintained because of pre-emphasis in the transmitting system.

(j) **Studio equipment.** Studio equipment shall be subject to all the above requirements where applicable, except as follows:

(1) If properly covered by an underwriters' certificate, it will be considered as satisfying safety requirements.

(2) Section 8191 of article 810 of the National Electrical Code shall apply for voltages only in excess of 500 volts.

(3) No specific requirements are made relative to the design and acoustical treatment of studios. However, the design of studios, particularly the main studio, shall be compatible with the required performance characteristics of television broadcast stations.

3.688. **Indicating instruments.** (a) Each television broadcast station shall be equipped with indicating instruments for measuring the direct plate voltage and current of the last radio stage of the visual and aural transmitters and the transmission line radio frequency current, voltage, or power of both transmitters; such instruments shall conform to the specifications therefor set forth in this Subpart.

(b) The following requirements and specifications shall apply to indicating instruments used by television broadcast stations in compliance with (a) above:

(1) Length of scale shall be not less than 2 3/10 inches.

(2) Accuracy shall be at least 2 percent of the full scale reading.

(3) Scale shall have at least 40 divisions.

(4) Full scale reading shall be not greater than five times the minimum normal indication.

(5) No specifications are prescribed at this time regarding the peak indicating device required by Section 3.689(b).

(c) Any required instrument, the accuracy of which is questionable, shall not be employed. Repairs and calibration of instruments shall be made by the manufacturer, or by an authorized instrument repair service of the manufacturer, or by some other properly qualified or equipped instrument repair service. In any case, the repaired instrument must be supplied with a certificate of calibration.

(d) Recording instruments may be employed in addition to the indicating instruments to record the direct plate current and/or voltage to the last radio stage provided that they do not affect the operation of the circuits or accuracy of the indicating instruments. If the records are to be used in any proceeding before the Commission, as representative of operation, the accuracy must be the equivalent of the indicating instruments and the calibration shall be checked at such intervals as to insure the retention of such accuracy.

(e) The function of each instrument used in the equipment shall be clearly and permanently shown on the instrument itself or on the panel immediately adjacent thereto.

(f) In the event that any one of the indicating instruments required by subparagraph (a) of this Section becomes defective when no substitute which conforms with the required specifications is available, the station may be operated without the defective instrument pending its repair or replacement for a period not in excess of 60 days; Provided, That—

(1) Appropriate entries shall be made in the operating log of the station, showing the date and time the meter was removed from and restored to service.

(2) The Engineer in Charge of the radio district in which the station is located shall be notified both immediately after the instrument is found to be defective and immediately after the repaired or replacement instrument has been installed and is functioning properly.

(3) If the defective instrument is a plate voltmeter or plate ammeter in the last radio stage, the operating power shall be maintained by means of the radio frequency transmission line meter.

(4) If conditions beyond the control of the licenses prevent the restoration of the meter to service within the above allowed period, informal request may be filed in accordance with Section 1.332(d) with the Engineer in charge of the radio district in which the station is located for such additional time as may be required to complete repairs of the defective instrument.

3.689 **Operating power.**

(a) Determination:

(1) Visual transmitter.—The operating power of the visual transmitter shall be determined at the output terminal of the vestigial sideband filter, if such filter is used; otherwise, at the transmitter output terminal. The average power shall be measured while operating into a dummy load of substantially zero reactance and a resistance equal to the transmission line surge impedance, while transmitting a standard black television picture. The peak power shall be the power obtained by this method, multiplied by the factor 1.68. During this measurement the direct plate voltage and current of the last radio stage and the peak output voltage or current shall be read for use below.

(2) Aural transmitter.—The operating power of the aural transmitter shall be determined by the indirect method. This is the product of the plate voltage (Ep) and the plate current (Ip) of the last radio stage, and an efficiency factor, F; that is:

Operating power = Ep x Ip x F

(i) The efficiency factor, F, shall be established by the transmitter manufacturer for each type transmitter for which he submits data to the Commission, and shall be shown in the instruction books supplied to the customer with each transmitter. In the case of composite equipment the factor F shall be furnished to the Commission by the applicant along with a statement of the basis used in determining such factor.

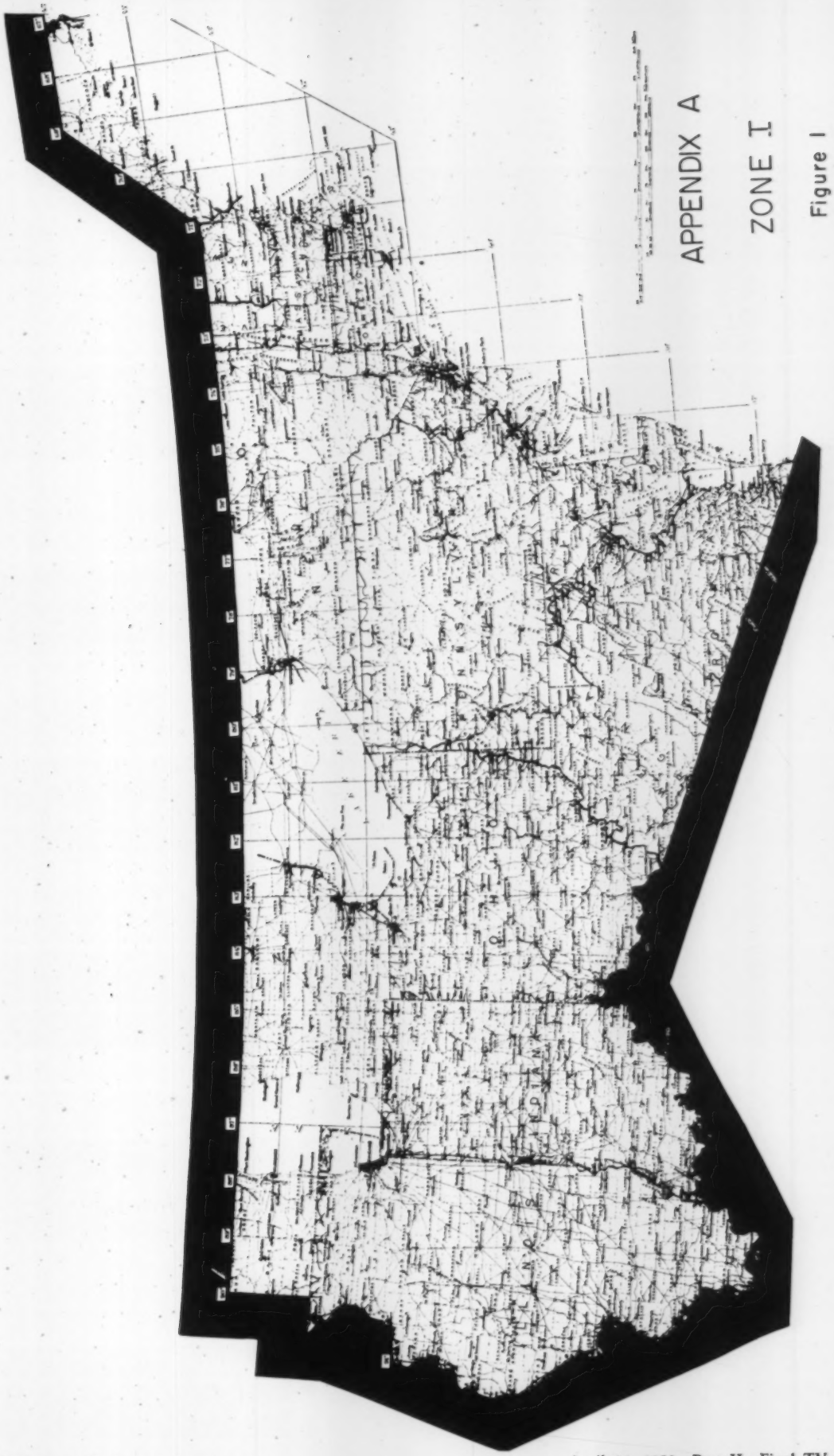
(b) Maintenance:

(1) Visual transmitter. — The peak power shall be monitored by a peak reading device which reads proportionally to voltage, current, or power in the radio frequency line, the meter to be calibrated during the measurement described in subparagraph (a)(1) of this Section. The operating power as monitored shall be maintained as near as practicable to the authorized operating power and shall not exceed the limits of 10 percent above and 20 percent below the authorized power except in emergencies. As a further check, both the plate voltage and plate current of the output stage shall be measured with a standard black television picture with the transmitter operating into the antenna. These values must agree substantially with corresponding readings taken under paragraph (a)(1) of this Section.

(2) Aural transmitter.—The operating power of the aural transmitter shall be maintained as near as practicable to the authorized operating power, and shall not exceed the limits of 10 percent above and 20 percent below the authorized power except in emergencies.

(3) Reduced power. — In the event it becomes impossible to operate with the authorized power, the station may be operated with reduced power for a period of 10 days or less provided the Commission and the Engineer in Charge of the radio district in which the station is located shall be notified in writing immediately thereafter and also upon the resumption of the normal operating power.[23]

[23] See Part O of the Commission's Rules for addresses of the Commission's Engineering Field Offices.


APPENDIX A
ZONE I
Figure 1

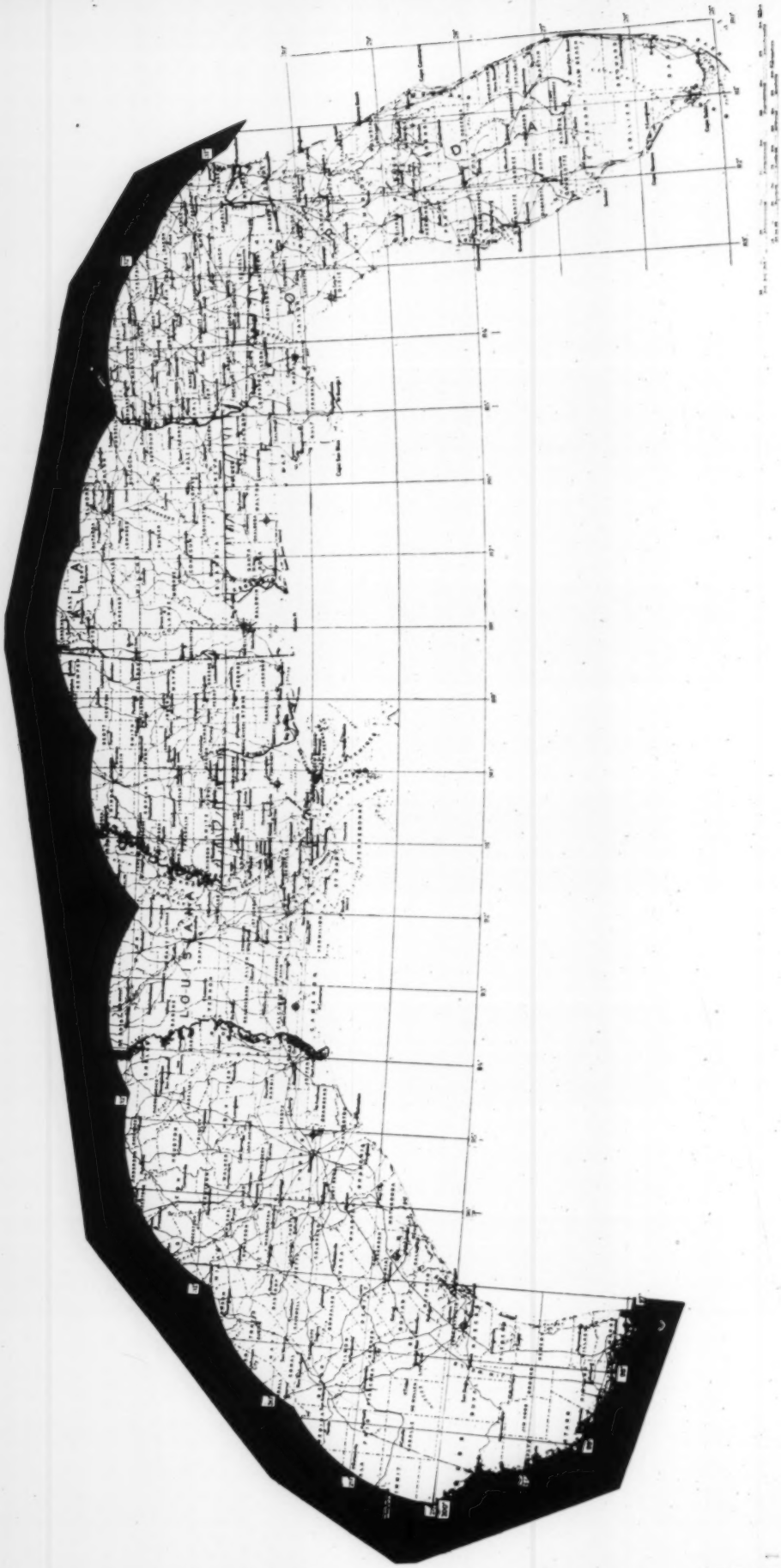


Figure 2

APPENDIX B

Table I

MINUTES TO DECIMAL PARTS OF A DEGREE

Minutes	Degrees	Minutes	Degrees	Minutes	Degrees
1	0.01667	21	0.35	41	0.68333
2	.03333	22	.36667	42	.70
3	.05	23	.38333	43	.71667
4	.06667	24	.40	44	.73333
5	.08333	25	.41667	45	.75
6	.10	26	.43333	46	.76667
7	.11667	27	.45	47	.78333
8	.13333	28	.46667	48	.80
9	.15	29	.48333	49	.81667
10	.16667	30	.50	50	.83333
11	.18333	31	.51667	51	.85
12	.20	32	.53333	52	.86667
13	.21667	33	.55	53	.88333
14	.23333	34	.56667	54	.90
15	.25	35	.58333	55	.91667
16	.26667	36	.60	56	.93333
17	.28333	37	.61667	57	.95
18	.30	38	.63333	58	.96667
19	.31667	39	.65	59	.98333
20	.33333	40	.66667	60	1.00

SECONDS TO DECIMAL PARTS OF A DEGREE

Seconds	Degrees	Seconds	Degrees	Seconds	Degrees
1	0.00028	21	0.00583	41	0.01139
2	.00056	22	.00611	42	.01167
3	.00083	23	.00639	43	.01194
4	.00111	24	.00667	44	.01222
5	.00139	25	.00694	45	.0125
6	.00167	26	.00722	46	.01278
7	.00194	27	.0075	47	.01306
8	.00222	28	.00778	48	.01333
9	.0025	29	.00806	49	.01361
10	.00278	30	.00833	50	.01389
11	.00306	31	.00861	51	.01417
12	.00333	32	.00889	52	.01444
13	.00361	33	.00917	53	.01472
14	.00389	34	.00994	54	.015
15	.00417	35	.00972	55	.01528
16	.00444	36	.01	56	.01556
17	.00472	37	.01028	57	.01583
18	.005	38	.01056	58	.01611
19	.00528	39	.01083	59	.01639
20	.00556	40	.01111	60	.01667

* * *

APPENDIX B

Table II

MILES PER DEGREE OF LATITUDE DIFFERENCE

Middle Latitude	Statute Miles	Middle Latitude	Statute Miles
25° 0′	68.828	40° 0′	68.992
30	68.833	30	68.998
26 0	68.837	41 0	69.004
30	68.842	30	69.011
27 0	68.847	42 0	69.017
30	68.852	30	69.023
28 0	68.857	42 0	69.029
30	68.862	30	69.035
29 0	68.867	44 0	69.041
30	68.873	30	69.047
30 0	68.878	45 0	69.053
30	68.883	30	69.060
31 0	68.889	46 0	69.066
30	68.894	30	69.072
32 0	68.899	47 0	69.078
30	68.905	30	69.084
33 0	68.911	48 0	69.090
30	68.916	30	69.096
34 0	68.922	49 0	69.102
30	68.928	30	69.108
35 0	68.933	50 0	69.115
30	68.939		
36 0	68.945		
30	68.951		
37 0	68.957		
30	68.962		
38 0	68.968		
30	68.974		
39 0	68.980		
30	68.986		

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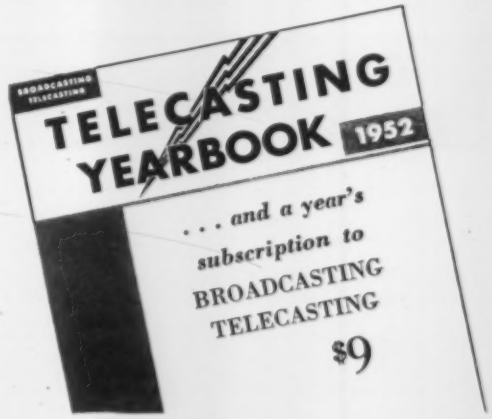


APPENDIX B - TABLE III

Miles per Degree of Longitude Difference

Middle Latitude Degrees	25	26	27	28	29	30	31	32	33	34
					Statute Miles					
Min.										
0	62.728	62.211	61.675	61.120	60.547	59.955	59.345	58.716	58.070	57.406
1	.720	.202	.666	.111	.537	.945	.335	.706	.059	.395
2	.712	.193	.657	.101	.528	.935	.324	.695	.048	.384
3	.703	.184	.648	.092	.517	.925	.314	.684	.037	.373
4	.694	.176	.639	.082	.508	.915	.303	.674	.026	.362
5	.686	.167	.630	.073	.498	.905	.293	.663	.015	.350
6	.677	.158	.621	.064	.488	.895	.282	.652	58.004	.339
7	.669	.149	.611	.054	.478	.885	.272	.642	57.994	.328
8	.660	.140	.602	.045	.469	.875	.262	.631	.983	.316
9	.652	.132	.593	.035	.459	.865	.252	.620	.972	.305
10	.644	.123	.584	.026	.449	.855	.241	.610	.961	.294
11	.635	.114	.575	.017	.440	.845	.231	.599	.950	.283
12	.627	.105	.566	61.007	.430	.835	.221	.588	.939	.271
13	.618	.096	.557	60.997	.420	.825	.210	.578	.928	.260
14	.609	.088	.547	.988	.410	.814	.200	.567	.917	.249
15	.601	.079	.538	.979	.400	.804	.189	.556	.906	.238
16	.592	.070	.529	.969	.390	.794	.179	.546	.895	.227
17	.583	.061	.520	.959	.381	.784	.168	.535	.884	.215
18	.575	.052	.510	.950	.371	.774	.158	.524	.873	.204
19	.567	.044	.501	.940	.361	.764	.147	.514	.862	.192
20	.559	.035	.492	.931	.352	.754	.137	.503	.851	.181
21	.550	.026	.483	.921	.342	.744	.127	.492	.840	.170
22	.541	.017	.474	.912	.332	.734	.116	.481	.829	.159
23	.532	62.008	.465	.902	.322	.723	.106	.470	.818	.147
24	.524	61.999	.455	.893	.312	.713	.095	.460	.807	.136
25	.515	.990	.446	.883	.302	.703	.085	.449	.796	.125
26	.507	.981	.437	.874	.292	.693	.074	.438	.785	.113
27	.498	.972	.428	.865	.282	.683	.064	.428	.774	.102
28	.489	.963	.419	.855	.273	.672	.054	.417	.763	.090
29	.480	.955	.409	.845	.263	.662	.043	.406	.752	.079
30	.472	.946	.400	.836	.253	.652	.033	.396	.741	.068
31	.463	.937	.391	.826	.243	.642	.022	.385	.729	.057
32	.455	.928	.381	.817	.233	.632	.012	.374	.718	.045
33	.446	.918	.372	.807	.223	.622	59.001	.363	.707	.034
34	.438	.909	.363	.798	.213	.611	58.991	.352	.696	.022
35	.429	.900	.354	.788	.203	.601	.980	.341	.685	57.011
36	.420	.891	.344	.778	.194	.591	.970	.331	.674	56.999
37	.412	.882	.335	.768	.184	.581	.960	.320	.663	.988
38	.403	.874	.325	.759	.174	.571	.949	.309	.652	.977
39	.395	.865	.316	.750	.164	.561	.939	.298	.641	.966
40	.386	.856	.307	.740	.154	.550	.928	.288	.629	.954
41	.377	.847	.298	.730	.144	.540	.917	.277	.618	.943
42	.369	.838	.289	.721	.134	.530	.907	.266	.607	.931
43	.360	.829	.279	.711	.124	.520	.896	.255	.596	.919
44	.351	.820	.270	.701	.114	.510	.886	.244	.585	.908
45	.342	.811	.261	.692	.104	.500	.875	.233	.574	.897
46	.334	.802	.252	.682	.094	.489	.865	.223	.563	.885
47	.325	.793	.242	.672	.084	.479	.854	.212	.552	.874
48	.316	.784	.233	.663	.074	.468	.843	.201	.541	.863
49	.308	.775	.223	.654	.065	.458	.833	.190	.529	.851
50	.299	.766	.214	.644	.055	.448	.822	.179	.518	.840
51	.290	.757	.205	.634	.045	.438	.812	.168	.507	.829
52	.281	.748	.195	.625	.035	.427	.801	.157	.496	.817
53	.272	.739	.186	.615	.025	.417	.790	.147	.485	.805
54	.264	.730	.176	.605	.015	.406	.780	.136	.473	.794
55	.255	.721	.167	.595	60.005	.396	.769	.125	.462	.782
56	.246	.712	.158	.586	59.995	.386	.759	.114	.451	.771
57	.237	.702	.148	.576	.985	.376	.748	.103	.440	.759
58	.228	.693	.139	.566	.975	.365	.737	.092	.429	.748
59	.220	.684	.129	.557	.965	.355	.727	.081	.418	.737

APPENDIX B - TABLE III

Miles per Degree of Longitude Difference

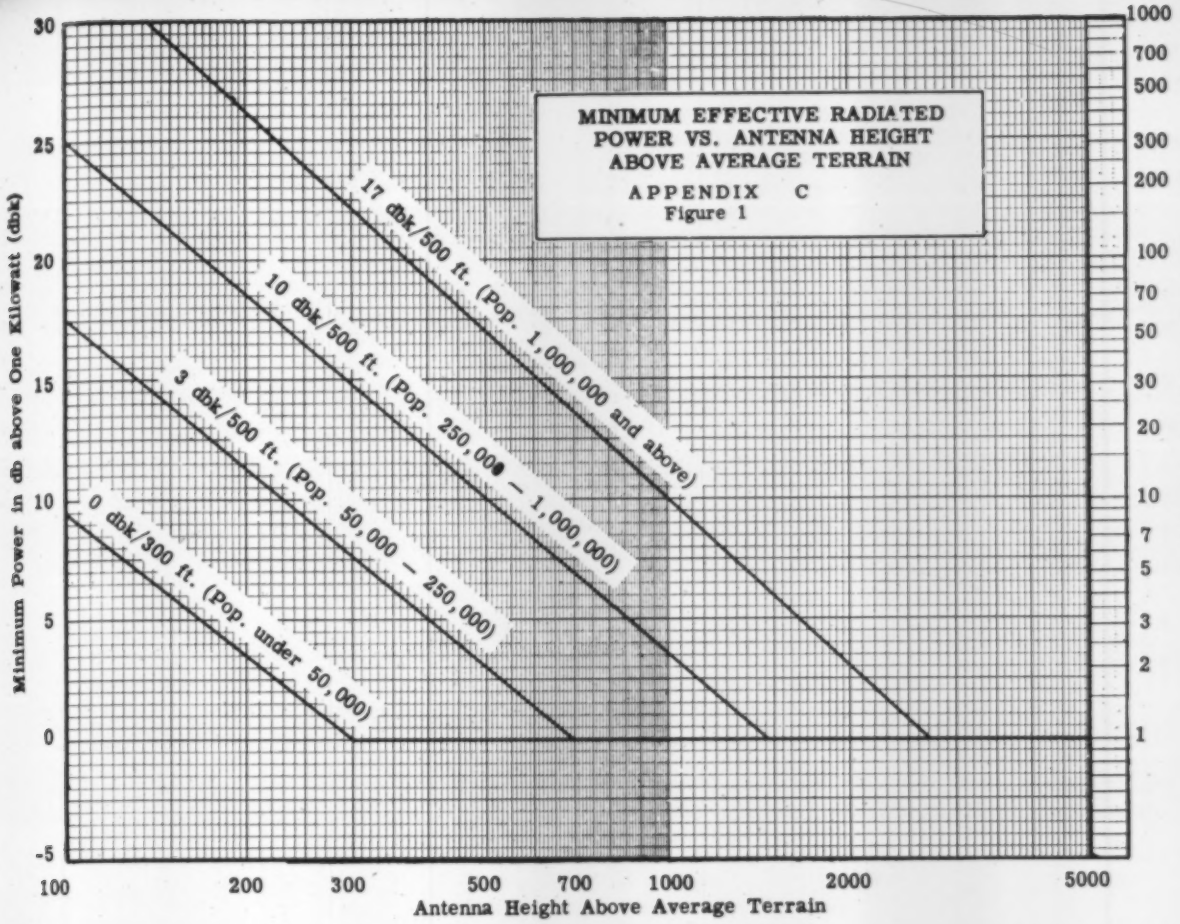
Middle Latitude Degrees	35	36	37	38	39	40	41	42	43	44
					Statute Miles					
Min.										
0	56.725	56.026	55.311	54.578	53.828	53.063	52.280	51.482	50.669	49.839
1	.713	.014	.299	.565	.816	.050	.267	.469	.655	.825
2	.702	56.002	.286	.553	.803	.037	.254	.455	.641	.811
3	.690	55.991	.274	.541	.791	.024	.241	.442	.627	.797
4	.678	.979	.262	.528	.778	53.011	.229	.429	.614	.783
5	.667	.967	.250	.516	.765	52.998	.215	.415	.600	.769
6	.655	.955	.238	.503	.753	.985	.201	.402	.586	.755
7	.644	.943	.226	.491	.740	.972	.188	.388	.573	.741
8	.632	.931	.213	.479	.727	.959	.175	.375	.559	.727
9	.621	.920	.201	.466	.715	.946	.162	.361	.545	.713
10	.610	.908	.189	.454	.702	.933	.149	.348	.531	.699
11	.598	.896	.177	.441	.689	.920	.135	.335	.517	.685
12	.586	.884	.165	.429	.677	.907	.122	.321	.504	.671
13	.575	.872	.153	.417	.664	.894	.109	.307	.490	.657
14	.563	.860	.141	.404	.651	.881	.096	.294	.476	.643
15	.552	.849	.128	.392	.639	.868	.082	.280	.462	.629
16	.540	.837	.116	.380	.626	.855	.069	.267	.449	.615
17	.529	.825	.104	.367	.613	.842	.056	.253	.435	.601
18	.517	.813	.093	.354	.601	.830	.043	.240	.421	.587
19	.505	.802	.080	.342	.588	.817	.030	.226	.408	.573
20	.493	.790	.068	.330	.575	.804	.016	.213	.394	.559
21	.482	.778	.056	.317	.562	.791	52.003	.199	.380	.545
22	.470	.766	.043	.304	.549	.778	51.990	.185	.366	.531
23	.459	.754	.031	.292	.536	.765	.977	.172	.352	.517
24	.447	.742	.019	.280	.524	.752	.963	.159	.338	.503
25	.435	.730	55.007	.267	.511	.739	.950	.145	.325	.489
26	.424	.718	54.995	.255	.498	.726	.936	.132	.311	.475
27	.412	.706	.983	.242	.486	.713	.923	.118	.297	.461
28	.401	.694	.970	.230	.473	.700	.910	.104	.283	.447
29	.389	.682	.958	.217	.460	.687	.897	.091	.270	.433
30	.378	.671	.946	.205	.448	.674	.883	.077	.256	.419
31	.366	.659	.934	.192	.435	.661	.870	.064	.242	.405
32	.354	.647	.922	.180	.422	.648	.857	.050	.228	.391
33	.343	.635	.909	.167	.409	.635	.843	.036	.214	.377
34	.331	.623	.897	.155	.396	.622	.830	.023	.200	.362
35	.319	.611	.885	.142	.384	.608	.817	51.010	.186	.348
36	.308	.599	.872	.130	.371	.595	.804	50.996	.173	.334
37	.296	.587	.861	.117	.358	.582	.790	.982	.159	.320
38	.284	.575	.848	.104	.345	.569	.777	.968	.145	.306
39	.273	.563	.836	.092	.332	.556	.763	.955	.131	.292
40	.261	.551	.824	.080	.320	.543	.750	.942	.117	.277
41	.249	.539	.811	.067	.307	.530	.736	.928	.103	.263
42	.238	.527	.799	.054	.294	.517	.723	.914	.089	.249
43	.226	.515	.787	.042	.281	.504	.710	.901	.076	.235
44	.214	.503	.775	.030	.268	.491	.697	.887	.062	.221
45	.202	.491	.762	.017	.255	.478	.684	.873	.048	.207
46	.191	.479	.750	54.005	.243	.465	.670	.860	.034	.193
47	.179	.467	.738	53.992	.230	.452	.657	.846	.020	.179
48	.167	.455	.726	.979	.217	.438	.643	.833	50.006	.165
49	.156	.443	.713	.967	.204	.425	.630	.819	49.992	.151
50	.144	.431	.701	.955	.191	.412	.616	.805	.978	.136
51	.132	.419	.688	.942	.178	.399	.603	.792	.965	.122
52	.120	.407	.676	.929	.165	.386	.590	.778	.951	.108
53	.109	.395	.664	.917	.152	.373	.576	.764	.937	.094
54	.097	.383	.652	.904	.140	.359	.563	.751	.923	.080
55	.085	.371	.639	.891	.127	.346	.549	.737	.909	.066
56	.073	.359	.627	.879	.114	.333	.536	.723	.895	.051
57	.061	.347	.614	.867	.101	.320	.523	.710	.881	.037
58	.050	.335	.602	.854	.088	.307	.509	.696	.867	.023
59	.038	.323	.590	.841	.075	.294	.496	.682	.853	49.009

APPENDIX B

TABLE III

Miles per Degree of Longitude Difference

Middle Latitude Degrees	45	46	47	48	49
			Statute Miles		
Min.					
0	48.995	48.135	47.260	46.371	45.468
1	.980	.120	.245	.356	.453
2	.966	.106	.231	.341	.438
3	.952	.091	.216	.326	.422
4	.937	.077	.201	.311	.407
5	.923	.063	.187	.296	.392
6	.909	.048	.172	.281	.377
7	.895	.034	.158	.266	.362
8	.881	.019	.143	.252	.346
9	.867	48.005	.128	.237	.331
10	.852	47.990	.114	.222	.317
11	.838	.975	.099	.207	.301
12	.824	.961	.084	.192	.286
13	.809	.946	.069	.177	.270
14	.795	.932	.054	.162	.255
15	.781	.917	.040	.147	.240
16	.767	.903	.025	.132	.225
17	.752	.888	47.010	.117	.210
18	.738	.874	46.995	.102	.194
19	.724	.859	.980	.087	.179
20	.709	.845	.966	.072	.164
21	.695	.830	.951	.057	.149
22	.681	.816	.936	.042	.134
23	.667	.801	.921	.027	.118
24	.653	.787	.906	46.012	.103
25	.638	.772	.891	45.997	.088
26	.623	.758	.877	.982	.073
27	.609	.743	.862	.967	.057
28	.595	.729	.847	.952	.042
29	.581	.714	.832	.937	.026
30	.567	.699	.818	.922	45.011
31	.552	.685	.803	.906	44.996
32	.538	.671	.788	.891	.981
33	.524	.656	.773	.876	.965
34	.509	.641	.759	.861	.950
35	.494	.627	.744	.846	.935
36	.480	.612	.729	.831	.920
37	.466	.597	.714	.816	.904
38	.452	.583	.699	.801	.889
39	.437	.568	.684	.786	.874
40	.423	.553	.669	.771	.858
41	.409	.539	.654	.756	.843
42	.395	.524	.639	.741	.827
43	.380	.509	.624	.726	.812
44	.365	.495	.609	.710	.797
45	.351	.480	.595	.695	.782
46	.336	.465	.580	.680	.766
47	.322	.451	.565	.665	.751
48	.308	.436	.551	.650	.736
49	.293	.421	.536	.635	.720
50	.279	.407	.521	.620	.705
51	.265	.392	.506	.604	.689
52	.250	.377	.491	.589	.674
53	.236	.363	.476	.574	.659
54	.222	.348	.461	.559	.643
55	.207	.333	.446	.544	.628
56	.192	.319	.431	.529	.613
57	.178	.304	.416	.514	.597
58	.163	.289	.401	.499	.582
59	.149	.275	.386	.484	.566


MINIMUM EFFECTIVE RADIATED POWER VS. ANTENNA HEIGHT ABOVE AVERAGE TERRAIN
APPENDIX C
Figure 1
17 dbk/500 ft. (Pop. 1,000,000 and above)
10 dbk/500 ft. (Pop. 250,000 — 1,000,000)
3 dbk/500 ft. (Pop. 50,000 — 250,000)
0 dbk/300 ft. (Pop. under 50,000)
Minimum Power in db above One Kilowatt (dbk)
Minimum Power in Kilowatts
Antenna Height Above Average Terrain
30
25
20
15
10
5
0
-5
1000
700
500
300
200
100
70
50
30
20
10
7
5
3
2
1
100
200
300
500
700
1000
2000
5000

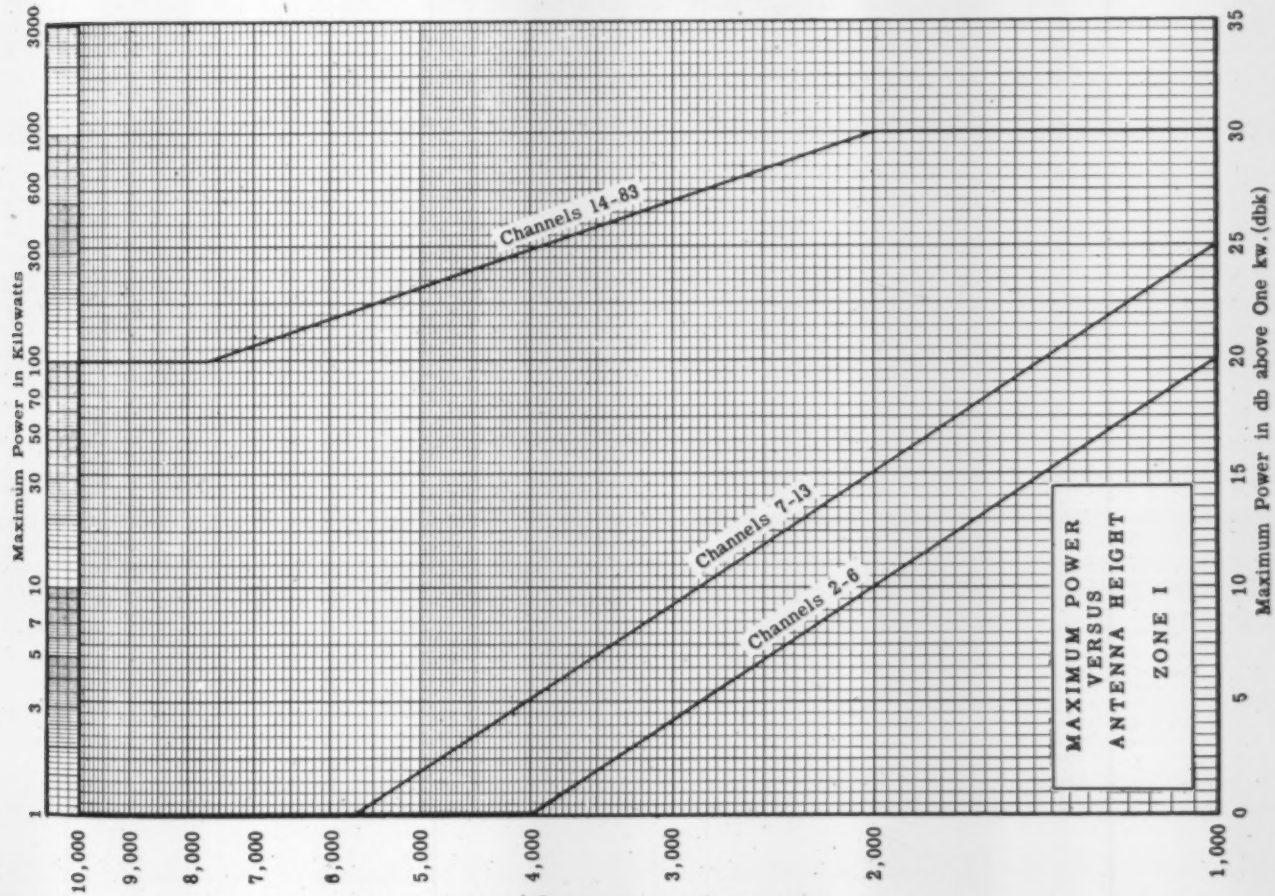

MAXIMUM POWER VERSUS ANTENNA HEIGHT ZONE I
Channels 14-83
Channels 7-13
Channels 2-6
Maximum Power in Kilowatts
Maximum Power in db above One kw. (dbk)
Antenna Height Above Average Terrain
3000
1000
600
300
100
70
50
30
10
7
5
3
1
35
30
25
20
15
10
5
0
10,000
9,000
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000

Figure 2(a)

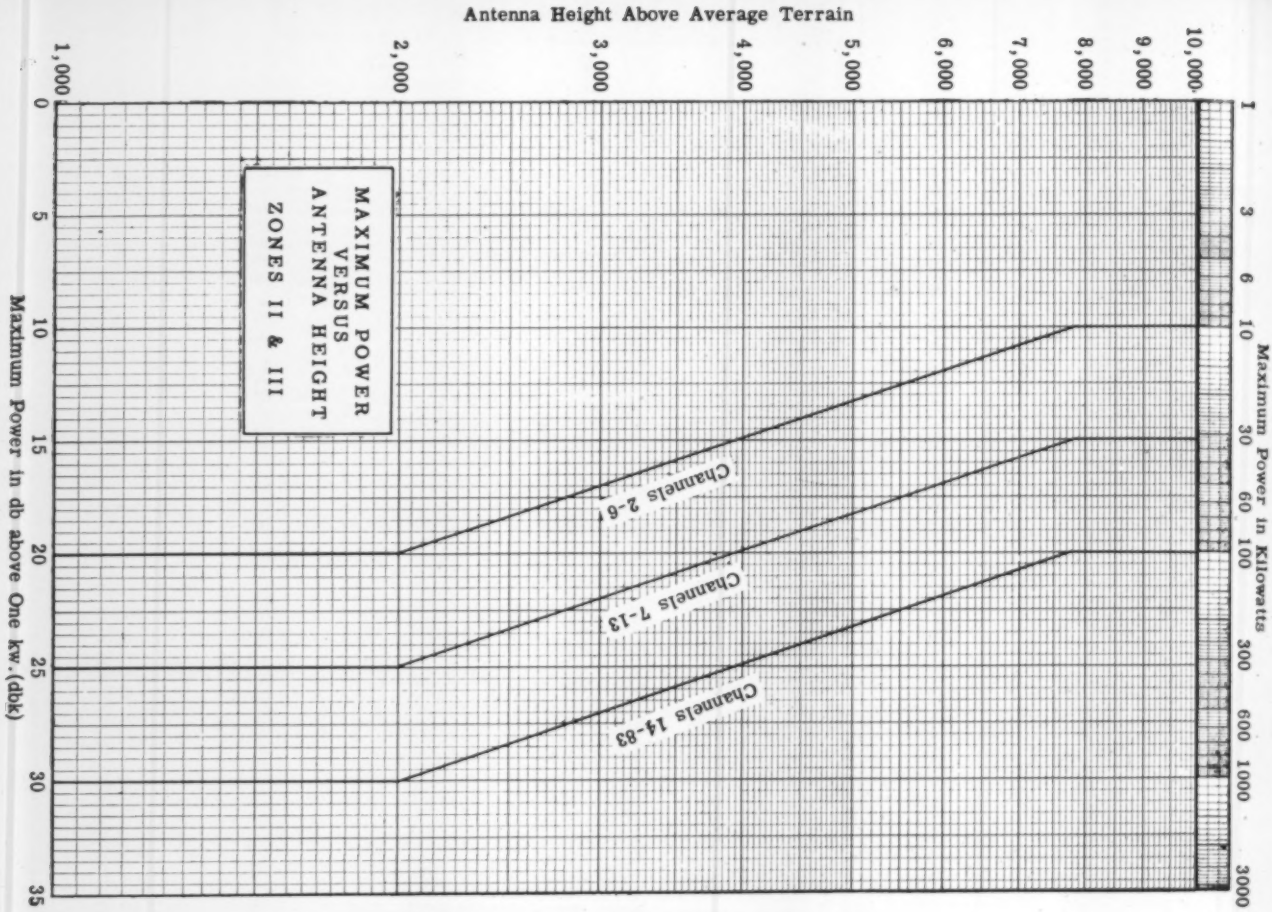
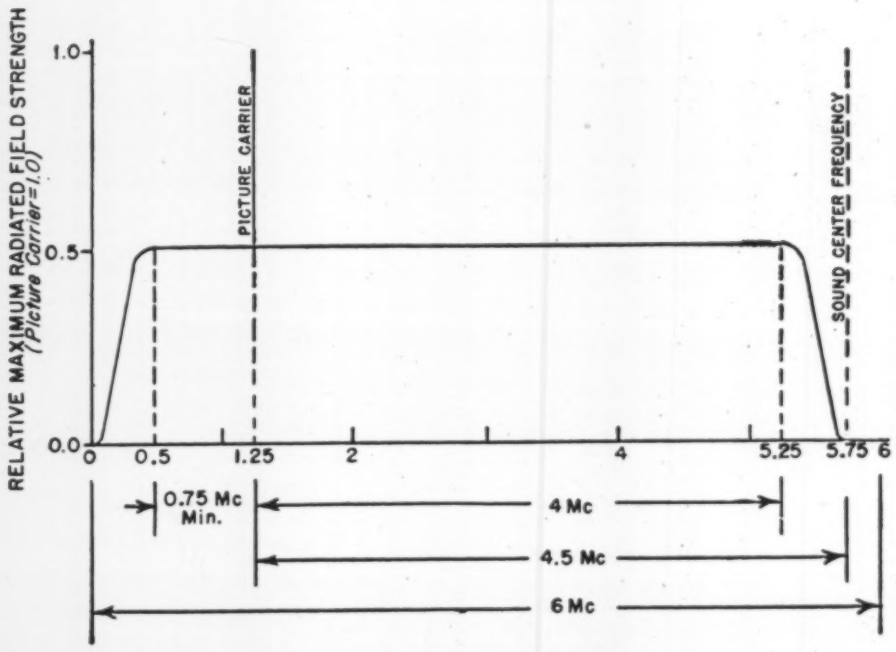


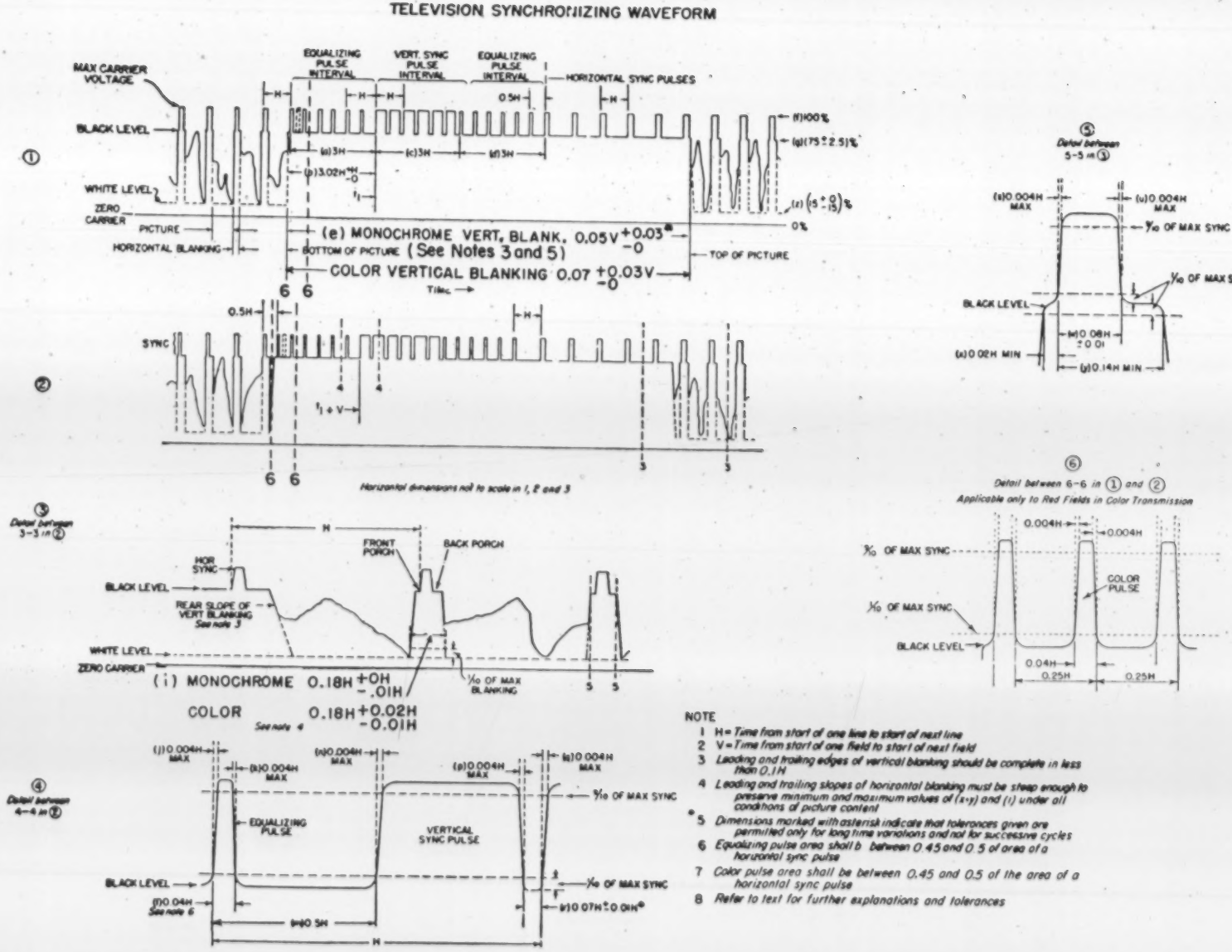
Figure 2(b)

IDEALIZED PICTURE TRANSMISSION AMPLITUDE CHARACTERISTIC



Note: Not drawn to scale

Figure 3



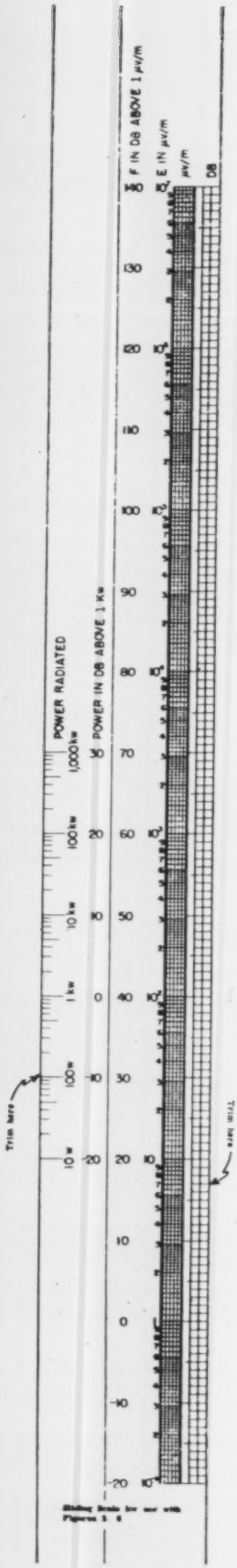
NOTE

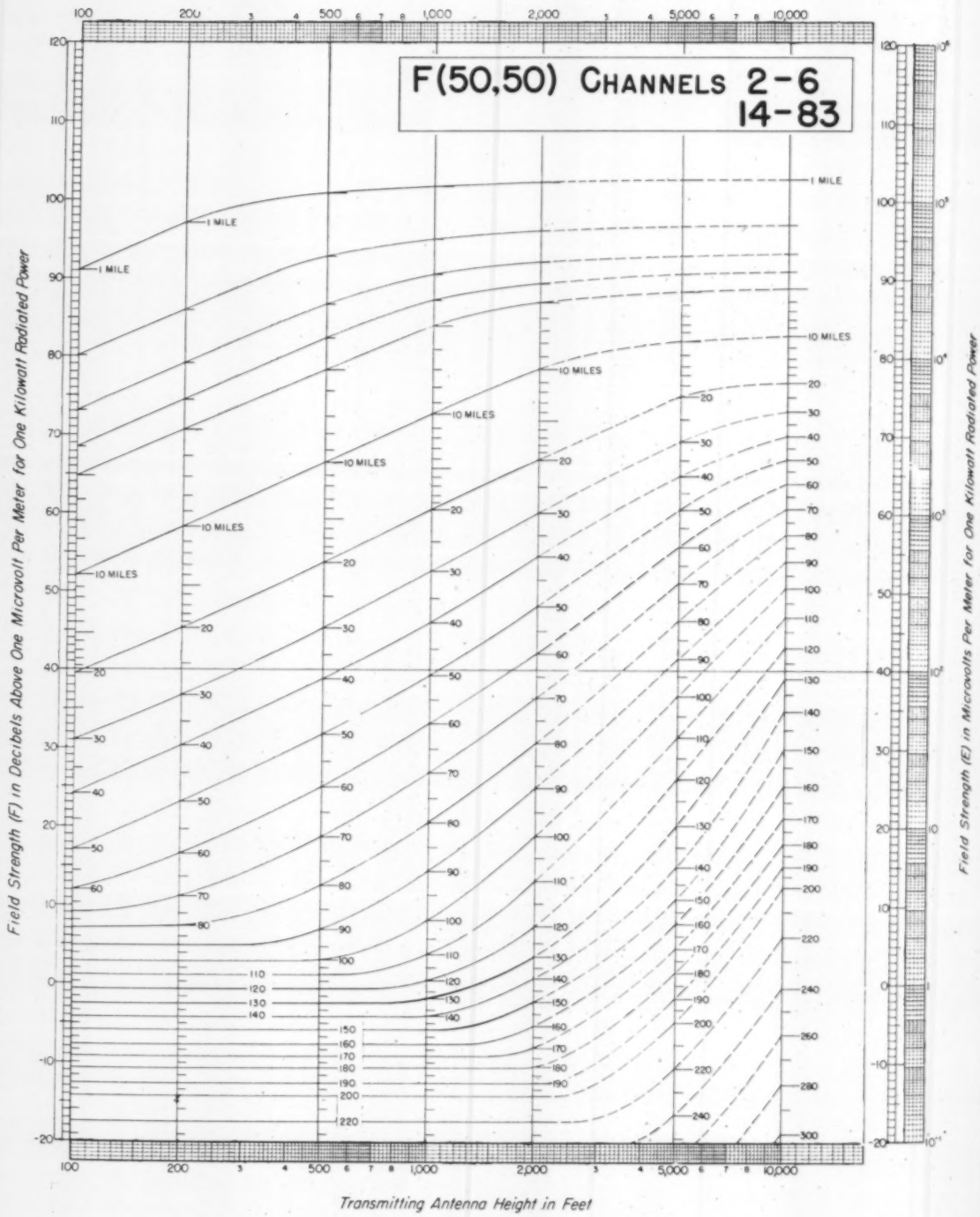
1 H = Time from start of one line to start of next line
2 V = Time from start of one field to start of next field
3 Leading and trailing edges of vertical blanking should be complete in less than 0.1H
4 Leading and trailing slopes of horizontal blanking must be steep enough to preserve minimum and maximum values of (x+y) and (i) under all conditions of picture content
*5 Dimensions marked with asterisk indicate that tolerances given are permitted only for long time variations and not for successive cycles
6 Equalizing pulse area shall b between 0.45 and 0.5 of area of a horizontal sync pulse
7 Color pulse area shall be between 0.45 and 0.5 of the area of a horizontal sync pulse
8 Refer to text for further explanations and tolerances

Figure 4

F.C.C. - WASHINGTON, D. C.

55552

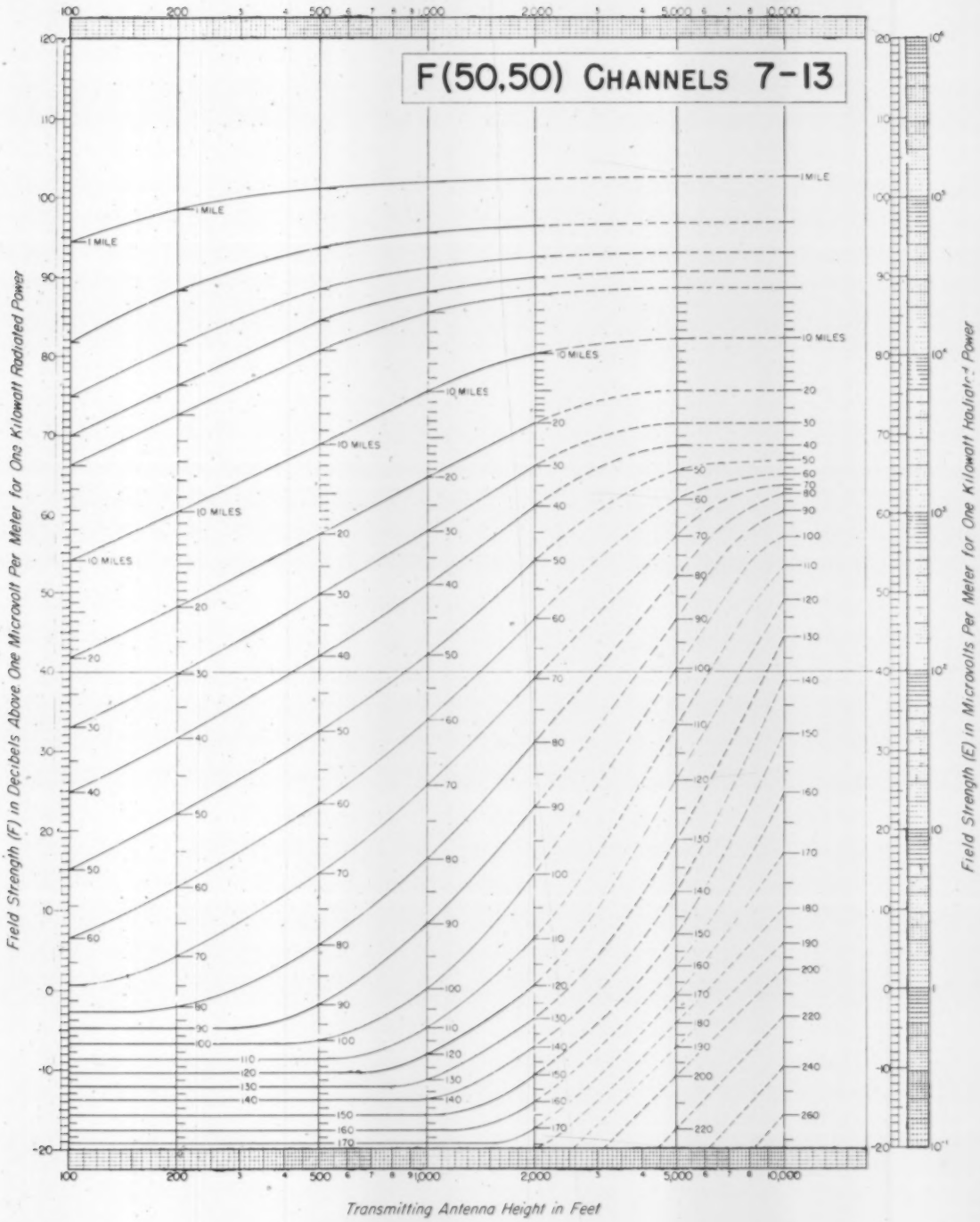



F(50,50) CHANNELS 2-6
14-83
1 MILE
10 MILES
Field Strength (F) in Decibels Above One Microvolt Per Meter for One Kilowatt Radiated Power
Field Strength (E) in Microvolts Per Meter for One Kilowatt Radiated Power
Transmitting Antenna Height in Feet

TELEVISION CHANNELS 2-6, 14-83

ESTIMATED FIELD STRENGTH EXCEEDED AT 50 PERCENT OF THE POTENTIAL RECEIVER LOCATIONS FOR AT LEAST 50 PERCENT OF THE TIME AT A RECEIVING ANTENNA HEIGHT OF 30 FEET

FIGURE 5


F(50,50) CHANNELS 7-13
Field Strength (F) in Decibels Above One Microvolt Per Meter for One Kilowatt Radiated Power
Field Strength (E) in Microvolts Per Meter for One Kilowatt Radiated Power
Transmitting Antenna Height in Feet
1 MILE
10 MILES

TELEVISION CHANNELS 7-13
ESTIMATED FIELD STRENGTH EXCEEDED AT 50 PERCENT OF THE POTENTIAL RECEIVER LOCATIONS FOR AT LEAST 50 PERCENT OF THE TIME AT A RECEIVING ANTENNA HEIGHT OF 30 FEET

FIGURE 6

ASSUMED IDEAL DETECTOR OUTPUT

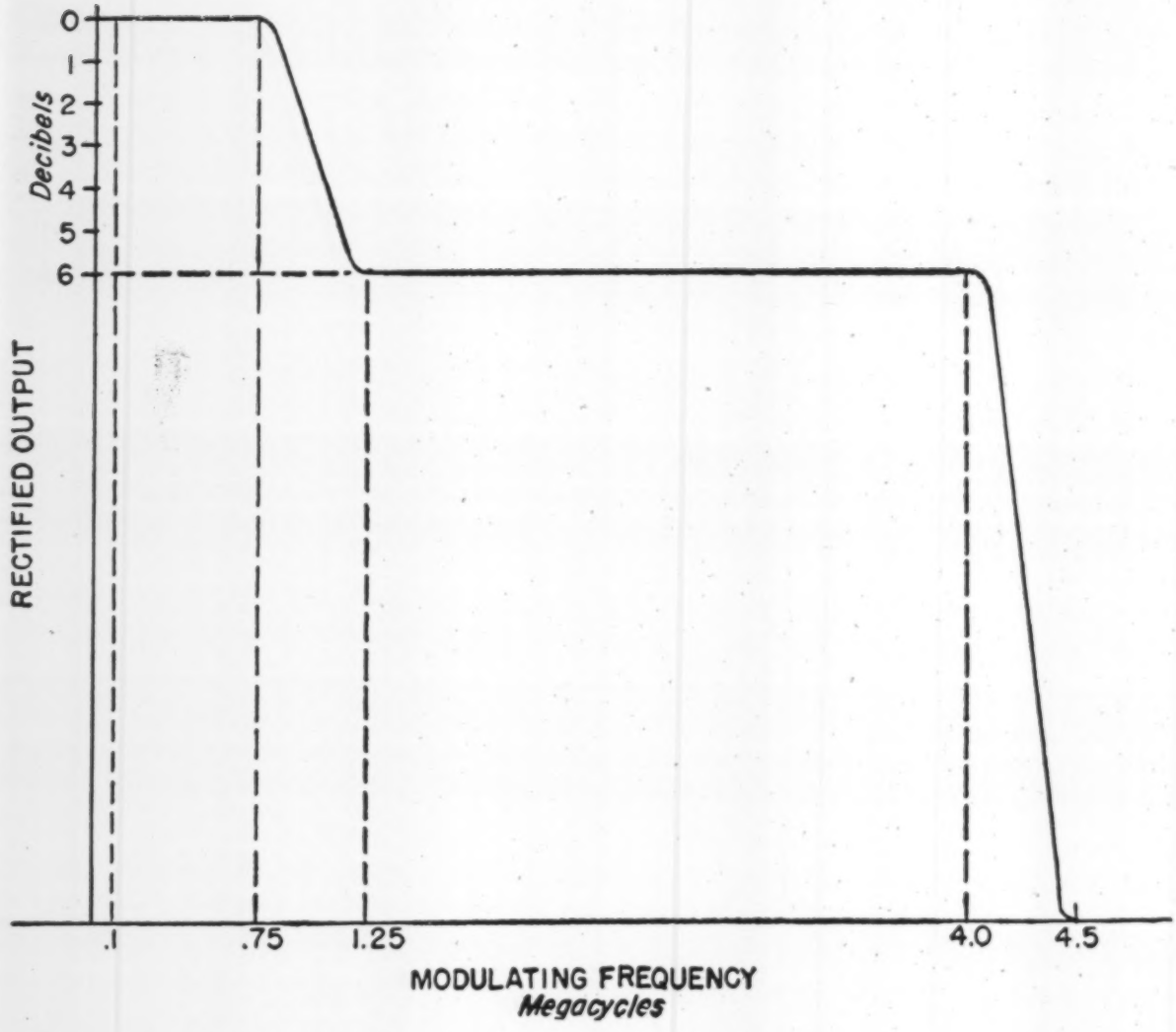


FIGURE 7

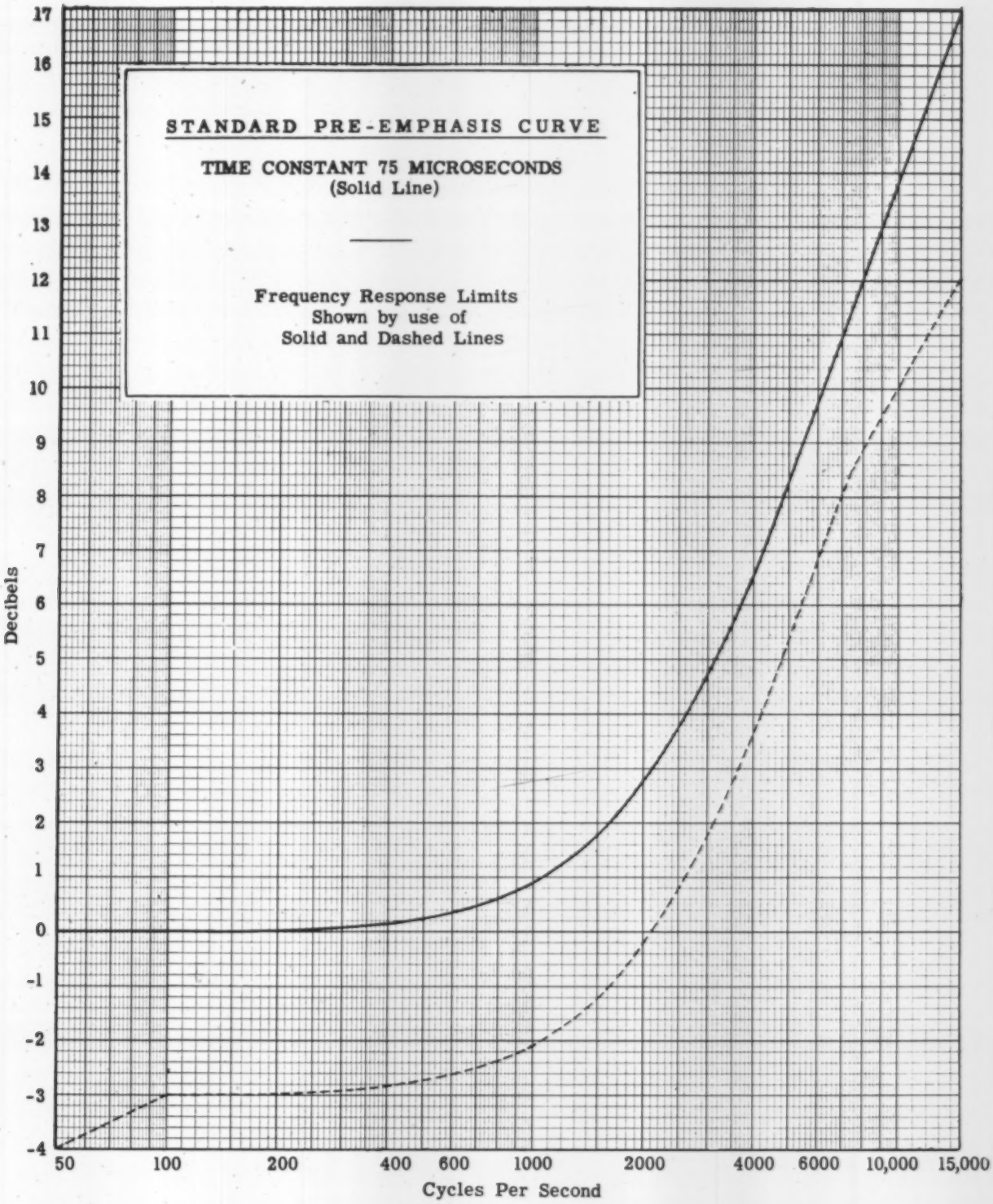

STANDARD PRE-EMPHASIS CURVE
TIME CONSTANT 75 MICROSECONDS
(Solid Line)
Frequency Response Limits
Shown by use of
Solid and Dashed Lines
Decibels
17
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
-1
-2
-3
-4
50
100
200
400
600
1000
2000
4000
6000
10,000
15,000
Cycles Per Second

FIGURE 8

For permanent San Diego coverage

KFMB-TV chose a

FISHER TOWER

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TV—AM—FM

CONSULT

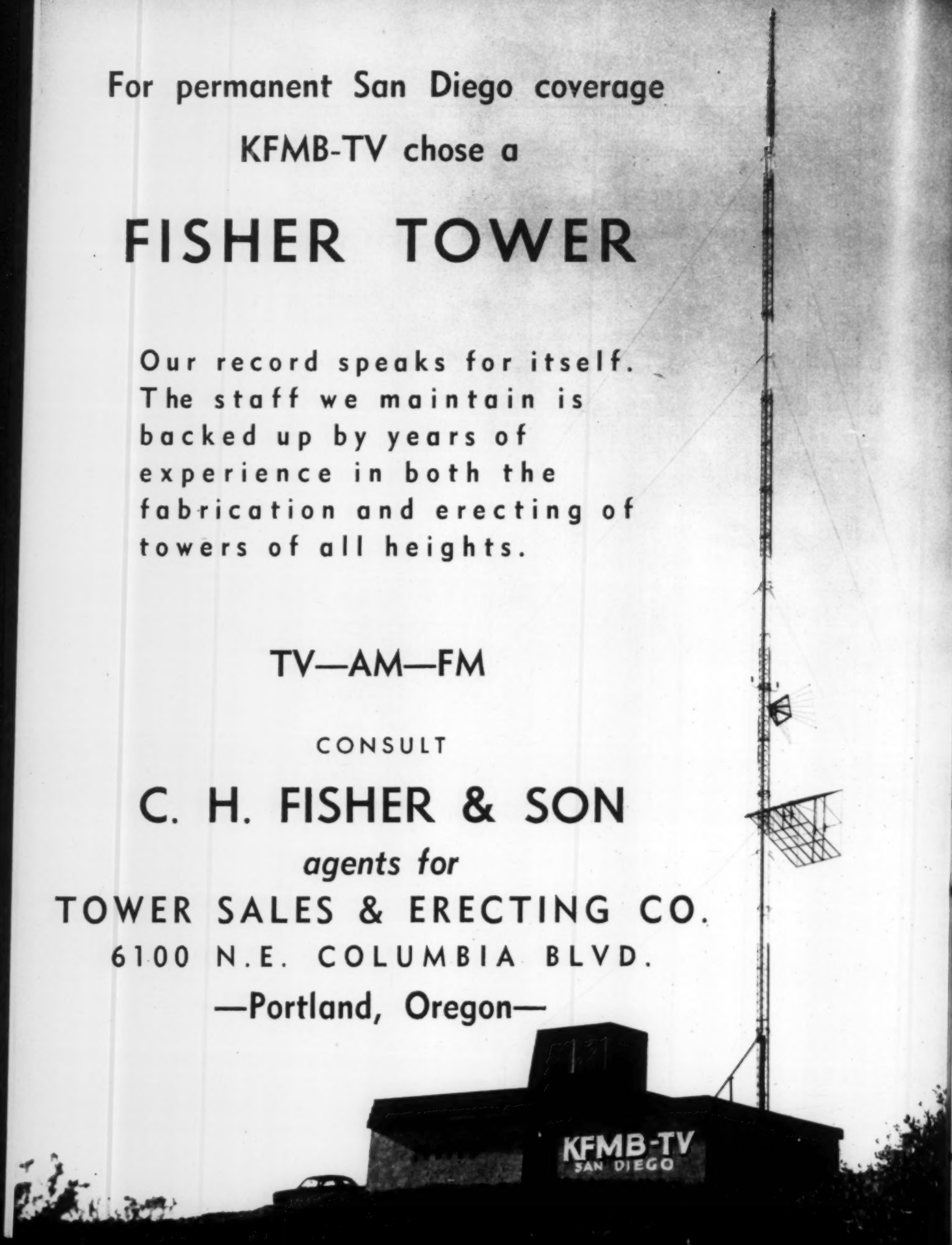
C. H. FISHER & SON

agents for

TOWER SALES & ERECTING CO.

6100 N.E. COLUMBIA BLVD.

—Portland, Oregon—



APPENDIX E
INDEX OF ASSIGNMENT DECISIONS

City	Proposed Assignments and Reservations	Counter proposals and related filings	Conclusions	Final Assignments and Reservations
		(Paragraph Numbers)		
ALABAMA				
Auburn	790	790	791	791
Birmingham	792	793	796-799	800
Mobile	790	790	791	791
Montgomery	792	794	796-799	800
Tuscaloosa	792	795	797-799	800
University	790	790	791	791
ARIZONA				
Flagstaff	239	239	239	
Phoenix	937	937	938	938
Tucson	937	937	938	938
Yuma	935	935	238, 936	936
ARKANSAS				
Blytheville	634	634	636-638	640
Fayetteville	619	619	620	620
Fort Smith	615	615	616, 617	618
Little Rock	615	615	616	618
CALIFORNIA				
Bakersfield	959	959	238, 960	961
Fresno	939	941	238, 945-948	950
Los Angeles	975	975	976	976
Monterey	962	962	963	964
Oakland	See San Francisco-Oakland.			
Port Chicago	956	956	957	958
Sacramento	939	940	943, 944	950
Salinas	962	962	963	964
San Bernardino	975	975	976	976
San Diego	971	971	238, 972, 973	974
San Francisco-Oakland	951	953	952-954	955
San Jose	975	975	976	976
Santa Barbara	939	942	949	950
Stockton	975	975	976	976
Visalia	939	942	947	950
COLORADO				
Boulder	850	852	861	869
Colorado Springs	850	854	863	869
Craig	850	853	865, 866	869
Denver	850	851	860, 865-867	869
Durango	850	856	865, 868	869
Grand Junction	850	857	865, 868	869
Montrose	850	858	865, 868	869
Pueblo	850	855	863	869
CONNECTICUT				
Bridgeport	253	264	283	288
Hartford	253	262, 264	236, 268-269, 277-281, 284	288
New Haven	253	263	281, 285-287	288
New London	253		236, 277-283	288
Norwich	253	264	283	288
Storrs	253	264	283	
Waterbury	253	264	283	288
DELAWARE				
Wilmington	339	339	340, 346	347
DISTRICT OF COLUMBIA				
Washington	331	331	332	332
FLORIDA				
Daytona Beach	778	778	779	781
Fort Lauderdale	807	808	816	818
Gainesville	807	809	814	818
Jacksonville	807	810	815-817	818
Miami	819	820, 821	827-830	831
Orlando	807	811	814, 816, 817	818
Panama City	807	812	814	818
Pensacola	782	783	784-788	789
St. Petersburg	See Tampa-St. Petersburg			
Tallahassee	778	778	779, 780	781
Tampa-St. Petersburg	819	820, 822	828-830	831
West Palm Beach	807	813	814	818
GEORGIA				
Albany	782		786	789
Athens	766	767	770-774	775
Atlanta	766	768	771-774	775
Columbus	776	776	777	777
Macon	776	769	772, 774	775
Savannah	776	776	777	777
Valdosta	819	820, 822, 823	824, 826	831
IDAHO				
Boise	896	896	897	897
Moscow	898	898	899	899
ILLINOIS				
Carbondale	518	518	519	520
Centralia		529	537	546
Champaign	526	527	534-545	546
Chicago	507	507	508, 509	510
Dekalb	515	515	516	517
Moline	See Davenport, Iowa			
Peoria	526	529	534-545	546
Quincy	556	556	557	558
Rockford	511	511	512	512
Rock Island	See Davenport, Iowa			
Springfield	513	513	514	514, 546
Urbana	526	528	534-545	546
INDIANA				
Bloomington	441	441	442-443	444
Evansville	445	445	446-447	447
Fort Wayne	438	438	439	440
Gary	459	459	236, 461	462
Indianapolis	430	430	236, 431-433	434
Lafayette	457	457	458	458
Logansport	435	435	436	437
Michigan City	452	452	453	453
Muncie	454	454	236, 455	456
South Bend	450	450	451	451
Terre Haute	448	448	449	449
IOWA				
Ames	547	547	549-554	555
Cedar Rapids	526	533	534-545	546
Davenport-Rock Island-Moline, Illinois	521	521	522-524	525
Des Moines	547	547	548-554	555
Dubuque	559	559	560	561
Fort Dodge	547	547	548-554	555
Iowa City	565	565	566	546, 566
Keokuk	556	556	557	558
Mason City				546
Sioux City	562	563	564	564
Waterloo	526	532	534-545	546
KANSAS				
Lawrence	588	588	589, 590	596
Manhattan	597	597	598	598
Topeka	599	599	600	600
Wichita	601	601	602, 603	604
KENTUCKY				
Louisville	463	463	464-466	467
Middlesborough	759	759	762	763
Owensboro	435	435	436	437
LOUISIANA				
Alexandria	843	843	844-846	847
Baton Rouge	832	833	838, 839	842
Houma	832	834	839	842
Lafayette	843	843	844-846	847
Lake Charles	832	836	840, 841	842
New Orleans	832	835	838-841	842
Shreveport	832	837		842
MAINE				
Bangor	249	249	250	250
Oreno	251	251	252	252
Portland	249	249	250	250
MARYLAND				
Baltimore	331	331	332	332
MASSACHUSETTS				
Boston	253	256	265-268, 272-276	288
Brockton	253	257	276	288
Holyoke	See Springfield-Holyoke			
Pittsfield	253	260	277-280	288
Springfield-Holyoke	253	258	268-269, 277-280	288
Worcester	253	259	268-269	288
MICHIGAN				
Ann Arbor	505	505	506	506
Bad Axe	848	848	236, 849	849
Bay City	490	490	236, 491, 492	493
Cadillac	500	500	501	502
Calumet	500	500	501	502
Coldwater	468	468	236, 469	470
Detroit	478	478	235, 479-483	484
Escanaba	500	500	236, 501	502
Flint	471	471	235, 472, 473	474
Grand Rapids	485	485	486-488	489
Hancock	500	500	501	502
Lansing	475	475	235, 476	477
Marquette	500	500	501	502
Saginaw	497	497	498	499
Sault Ste. Marie	503	503	504	504
Traverse City	494	494	495	496
MINNESOTA				
Duluth	579	579	580	584
Mankato	526	530	534-545	546
Minneapolis-St. Paul	570	570	571	571
New Ulm	526	530	534-545	546
St. Paul	See Minneapolis			
MISSISSIPPI				
Biloxi	805, 843	805, 843	806, 844-846	806, 847
Jackson	782	784	785-788	789
Meridian	801	801	802, 803	804
State College	805	805	806	806
University	805	805	806	806
MISSOURI				
Clinton	848	848	849	849
Columbia	585	585	586	587
Hannibal	556	556	557	558
Kansas City	588	588	591, 592-595	596
Kirksville		529	539, 540	546
St. Joseph	567	567	568	569
St. Louis	567	567	568	569
Springfield	567	567	568	569
MONTANA				
Billings	927	927	928	929
Bozeman	927	927	928	929
Butte	923	923	236, 924, 925	926
Great Falls	927	927	928	929
Miles City	927	927	928	929
Missoula	927	927	928	929
NEBRASKA				
Alliance		851		869
Lincoln	610	610	612, 613	614
Omaha	610	610	611, 613	614
NEVADA				
Las Vegas	969	969	970	970
Reno	965	965	966, 967	968

City	Proposed Assignments and Reservations	Counter proposals and related filings	Conclusions	Final Assignments and Reservations
		(Paragraph Numbers)		
NEW HAMPSHIRE				
Durham	253	254	265-267	288
Hanover	None	289	236, 290	291
Rochester		289	290	291
NEW JERSEY				
Andover	None	327	236, 329	330
Camden	None	327	329	330
Freehold	None	327	329	330
Hammonton	None	327	329	330
Montclair	None	327	236, 329	330
Newark	325	325	326	327
New Brunswick		327	329	330
NEW MEXICO				
Albuquerque	930	930	931	931
Gallup	932	932	933	934
Raton	932	932	933	934
Roswell	930	930	931	931
Santa Fe	930	930	931	931
Silver City	932	932	238, 933	934
NEW YORK				
Albany-Schenectady-Troy	292	292, 319	236, 295, 320	296, 321
Binghamton	292, 297	292, 297	295, 298	296, 299
Buffalo	292, 300	292, 301	235, 236, 295, 303-307	296, 308
Corning	None	315	235, 316	
Ithaca	292, 300	292, 302	295, 303-307	296, 308
Kingston	None	322	236, 323	324
Malone		292	236, 293	296
New York City	292, 325	292, 325	294-295, 326	296, 327
Niagara Falls	300	301	303-307	308
Oneonta		319	320	321
Poughkeepsie		292	236, 293	296
Rochester	292	292, 317	295, 318	296
Rome	See Utica-Rome			
Schenectady	292	319	320	321
Syracuse	292, 309	292, 311	235, 295, 312-313	296, 314
Troy	See Albany-Schenectady-Troy			
Utica-Rome	292	292	295	296
Watertown	309	310	235, 312-313	314, 321
NORTH CAROLINA				
Asheville	757	757	758	758
Chapel Hill	757	757	758	758
Charlotte	714, 757	715, 757	720-722, 758	726, 758
Durham	757	757	758	758
Greensboro	714, 757	757	758	726, 758
High Point	714	716	721, 722	726
Kinston	848	848	849	849
Raleigh	757	757	758	758
Salem	See Winston-Salem			
Wilmington	757	757	758	758
Winston-Salem	714, 757	717, 757	720-722	726
NORTH DAKOTA				
Bismarck	605	605	606	606
Dickinson	605	605	606	606
Fargo	605	605	606	606
Grand Forks	605	605	606	606
Minot	605	605	606	606
Williston	605	605	606	606
OHIO				
Akron	390	391	393	394
Cincinnati	404	404	236, 405-409	410
Cleveland	411	412	236, 413-415	416
Columbus	417	417	418-419	420
Dayton	395	395	396-397	398
Oxford	388	388	389	389
Sandusky	411	412	413	416
Steubenville	348	353	236, 358-360, 362	366
Toledo	386	386	387	387
Warren	399	399	400	400
Wooster	390	392	393	394
Youngstown	401	401	236, 402	403
Zanesville	427	427	428	429
OKLAHOMA				
Enid	621	621	622	623
Lawton	624	624	630	632
Muskogee	648	621, 848	622, 849	623, 849
Norman	621	621	622	623
Oklahoma City	624	624, 625	627-632	632
Pryor Creek	848	848	849	849
Stillwater		621	622	623
Tulsa	624	624, 626	627-632	632
OREGON				
Albany	877	881	235, 883	890
Corvallis	919	919	920	920
Eugene	914	914	915-917	918
Portland	911	911	912	913
Salem	921	921	922	922
PENNSYLVANIA				
Altoona	367	368	236, 370	371
Beaver Falls	384	384	235, 385	
Braddock	None	351	357	
Erie	376	376	236, 377-380	381
Harrisburg	333	333	236, 334	335
Johnstown	374	374	375	
Lancaster	339	339	341-346	347
Lebanon	336	336	337	338
Lock Haven	None	382	236, 382	382
McKeesport	None	350	355	
Philadelphia	339	339	340-345	347
Pittsburgh	348	349	236, 354-358, 361-363, 365	366
Reading	336	336	337	338
Scranton	333	333	236, 334	335
State College	372	372	373	373
Washington	348	352	358, 361-362	366

City	Proposed Assignments and Reservations	Counter-proposals and related filings	Conclusions	Final Assignments and Reservations
		(Paragraph Numbers)		
RHODE ISLAND				
Providence	253	261	268-271	288
SOUTH CAROLINA				
Charleston	764	764	765	765
Clemson	764	764	765	765
Columbia	759	759, 760	761	763
Greenville	764	764	765	765
Spartanburg	759	759	762	763
SOUTH DAKOTA				
Brookings	607	607	608	609
Pierre	607	607	608	609
Sioux Falls	607	607	608	609
Vermillion	607	607	608	609
TENNESSEE				
Bristol	755	755	756	756
Chattanooga	751	751	752	752
Cookeville	745	747	749	750
Harriman	848	848	849	849
Kingsport	753	753	754	754
Knoxville	751	751	752	752
Maryville	848	848	849	849
Memphis	634	634	635-639	640
Nashville	745	746	748, 749	750
Shelbyville	848	848	849	849
TEXAS				
Amarillo	667	669	671	672
Austin	710	710	711	711
Beaumont-Port Arthur	685	685	686	687
Breckenridge	644	644	645	646
Brownsville	673	675	677, 678	679
College Station	694	694	695	695
Corpus Christi	708	708	709	709
Dallas	662	662	663-665	666
Denison	647	649	652	653
Denton	647	650	652	653
El Paso	702	702	703	703
Fort Worth	704	704	705	705
Galveston	706	706	707	707
Harlingen	673	675, 676	238, 677, 678	679
Houston	680	680	681-683	684
Laredo	696	696	697	697
Longview	654	654	655, 656	657
Lubbock	667	668	238, 670, 671	672
McAllen	673	674	238, 677-678	679
Monahans	667	668	670	672
Port Arthur	See Beaumont-Port Arthur			
San Angelo	698	698	699	699
San Antonio	658	658	660	661
Sherman	647	648	651-652	653
Temple	641	641	238, 642	643
Texarkana	700	700	701	701
Victoria	658	658	238, 659	661
Waco	688	688	689	690
Weslaco	674	676	238, 677-678	679
Wichita Falls	691	691	692	693
UTAH				
Logan	900	906	907	910
Ogden	900	904	907	910
Price	900	902	909	910
Provo	900	905	907	910
Salt Lake City	900	901	907-909	910
Vernal	900	903	907-909	910
VERMONT				
Burlington	251	251	252	252
VIRGINIA				
Blacksburg	743	743	744	744
Bristol	755	755	756	756
Charlottesville	735	737	738-741	742
Danville	743	743	744	744
Harrisonburg	367	369	236, 370	371
Lynchburg	743	743	744	744
Newport News	727	729	731	734
Norfolk-Portsmouth	727	728	730-733	734
Petersburg	735	737	738-741	742
Portsmouth	See Norfolk-Portsmouth			
Richmond	735	736	738-741	742
Roanoke	743	743	744	744
WASHINGTON				
Bellingham	877	878	236, 884-889	890
Ellensburg	891	891, 893	236, 892, 894	892, 895
Kennewick		893	236, 894	895
Longview	877	880	235, 884-889	890
Olympia	873	873	874, 875	876
Omak-Okanogan		893	236, 894	895
Pasco		893	236, 894	895
Pullman	893	893	894	895
Richland		893	236, 894	895
Seattle	877, 893	879, 893	235, 882, 884-889	890
Spokane	893	893	894	895
Tacoma	873, 893	873, 893	875	876
Walla Walla	870	870	236, 871	872
Wenatchee		893	236, 894	895
Yakima		893	236, 894	895
WEST VIRGINIA				
Beckley	714	719	723-725	726
Charleston	421	423	424-425	426
Clarksburg	427	427	428	429
Huntington	421	422	236, 424-425	426
Morgantown	712	712	713	713
Princeton	714	718	721, 722	726
Wheeling	348	353	358-360	366

City	Proposed Assignments and Reservations	Counter-proposals and related filings	Conclusions	Final Assignments and Reservations
		(Paragraph Numbers)		
WISCONSIN				
Adams		579	236, 582	584
Chilton		579	236, 582	584
Eau Claire	579	579	580	584
Green Bay	572	572	236, 574-577	578
LaCrosse	579	579	580	584
Madison	579	579	581	584
Marinette	579	579	580	584
Milwaukee	572, 579	572, 579	573-577, 583	578, 584
Racine		579	583	
Richland Center		579	236, 582	584
Park Falls		579	582	584
Shell Lake		579	236, 582	584
Superior	579	579	580	584
Wausau		579	236, 582	584
WYOMING				
Cheyenne		851	867	869
Laramie	850	859	864, 865, 866	869
Rawlins		851		869
ALASKA				
Anchorage	978	978	979, 980	981
Fairbanks	978	978	979, 980	981
Juneau	978	978	979, 980	981
Ketchikan	978	978	979, 980	981
HAWAIIAN ISLANDS				
Lihui	978	978	979, 980	981
Honolulu	978	978	979, 980	981
Wailuku	978	978	979, 980	981
Hilo	978	978	979, 980	981
PUERTO RICO				
San Juan	978	978	979, 980	981

CONCURRING OPINION OF COMMISSIONER E. M. WEBSTER

The importance of television in the field of education has already been firmly established in the minds of all thinking people. Accordingly, it is not a question as to whether programs of this nature should be televised, but, rather, whether the Commission should reserve, for future use by educational groups, certain television channels for non-commercial educational purposes only, or leave the production of such programs to the discretion of the commercial interests, including those educational groups desiring to operate commercially.

When the Third Notice of Further Proposed Rule Making was issued March 22, 1951, I stated in a separate opinion that I believed the reservation of channels for non-commercial educational television stations was warranted only upon a showing that there is a reasonable probability that, if such reservation were made, the channels would be utilized in the reasonably near future. It was my opinion that a vast majority of the representatives of educational institutions had little concept of the costs and practical problems involved in the construction and operation of a television station, and that when brought face to face with practicalities they might find the economic hurdle difficult if not impossible to surmount. I was unable to overcome the feeling that the proponents of non-commercial educational channel reservations, knowing the importance of education to the well-being of our nation, and having been alerted to the mass appeal of television, were carried away by the glowing potentialities thereof in the field of education and failed to approach this new venture from a practical point of view. It appears that, of those educational organizations not privately endowed, few, if any, have the active backing and cooperation of their state or local governments which will be called upon to appropriate the funds for such non-profit operations. Nevertheless, with virtually no reasonable assurance that funds would be available for the construction and continued operation of non-commercial educational television stations, the Commission was requested to indefinitely reserve channels therefor. In other words, in the face of claims by commercial interests that, with the cooperation of educators, they could produce educational television programs in a manner which would be in the best interest of the public, we were asked to permit a scarce and valuable part of the public domain to lie fallow, possibly for a period of years, if the educational groups found it infeasible to put these channels to reasonably prompt use.

I felt, as I am sure all of the Commissioners did, that I could not permit the understandable burst of enthusiasm displayed by the educational group to sway my thinking as to whether the public interest would best be served by indefinitely reserving a certain number of channels for future use by the non-commercial groups, or by making all television channels immediately available for use by commercial stations and looking to this group to furnish the public with educational programs. In my opinion neither interest presented a strong case up to the time the Third Notice of Further Proposed Rule Making was issued, and, on the basis of the record then made, I was not satisfied that we would be justified in making the requested reservations.

Neither the Commission's notice nor my separate opinion directed either group to show, in the proceedings scheduled to follow the Third Notice, what it contemplated doing by way of televising educational programs. However, it appears to me that the logical course for the commercial group to have taken, if it was serious in its contention that reservations of television channels should not be made for non-commercial educational stations, would have been to show what commercial stations are capable of doing in this connection both as to quality and quantity. By the same token, I expected the educational group to take steps to support the proposed reservations on a city-by-city basis. It cannot be said that the opportunity to make such a showing was not given, since comments with respect to the table of assignments in the city-by-city portion of the proceedings were specifically provided for in footnote 12 of the Third Notice.

It was my hope that by buttressing their respective positions the conflicting interests would give the Commission more affirmative data on which to base a decision, and I so indicated in my separate opinion. It does not appear to me that this was effectively done by either group. The failure of the commercial interest to make a strong, positive showing with respect to educational productions leaves me with the impression that that group is not as prepared to voluntarily go forward with this type of television programming as originally indicated. As for the educational group, in a relatively few instances a showing was made that there were definite plans for constructing and operating non-commercial educational television stations in the near future. But with respect to an overwhelming majority of the 209 communities tentatively assigned educational channels by the Third Notice, support therefor by local educational organizations took, for the most part, the form of affidavits stating that reservations of such channels were desired. In the case of 18[1] communities receiving tentative assignments of educational channels, no testimony at all was given by local institutions that the use of such channels is contemplated even in the distant future. While the Joint Committee on Educational Television did file a sworn statement which endorsed the Commission's proposal to reserve channels in these 18 communities and requested that the assignments be made final, its affidavit made no effort to justify these specific reservations.

In my opinion the proposals of both groups, having been weighed in the balance, leave much to be desired. On the one hand we have the non-commercial educational group, imbued with lofty motives and high hopes, but, generally speaking, without funds or reasonably firm plans for televising educational programs in the near future. On the other hand we have the commercial interest, apparently possessed of means for televising educational programs in the reasonably near future, but likewise without plans as to what, if anything, would be done in this connection. However, since the future, if not the present, status of educational programming in the field of television depends on the provision made therefor at this time, the Commission, as I see it, finds itself in the unenviable position of having to make a choice between the inadequate proposals of these interests, or promulgate rules requiring commercial stations to provide adequate educational programs. I am not ready at this point to recommend that this latter step be taken.

Having made little or no showing as to what it is willing to do in this connection, obviously, we cannot depend on the commercial interest to give this vitally important type of programming the attention it merits. Therefore, we are left with no alternative. Despite the inadequate showing made by the non-commercial educational group, circumstances dictate that the requested reservations be made. There is this much to be said in favor of such assignments. Regardless of the obstacles which must be overcome, in general, educational institutions, in order to further the purpose for which they exist, undoubtedly will be conscientiously concerned with the construction and operation of non-commercial educational stations at the earliest possible date. We can only hope that their state and local governments share their interest and foresight.

One of the considerations which enables me to accept the reservation of channels is the fact that, in the event the educators fail in their efforts, the Commission, at any time it considers it in the public interest to do so, can reconsider its decision in this connection and, through rule making proceedings, assign idle educational channels for commercial purposes, and possibly promulgate rules requiring other than non-commercial educational stations to provide adequate educational programs. Moreover, after a period of one year from the date on which this table of assignments is made final, any interested party is at liberty to petition the Commission for rule making proceedings looking toward the commercialization of any or all educational channels lying fallow at that time. Accordingly, in view of the observations set out above, and on the basis of the entire record, I believe it is in the public interest to reserve the channels for non-commercial educational television stations specified in this Report and Order.

[1] Portland, Maine; Bangor, Maine; State College, Pa.; Erie, Pa.; Dayton, Ohio; Bozeman, Montana; Miles City, Montana; Butte, Montana; Minot, N. D.; Dallas, Texas; College Station, Texas; Gainesville, Fla.; Panama City, Fla.; Las Vegas, Nevada; Columbus, Ga.; Biloxi, Miss.; Roanoke, Va.; San Juan, Puerto Rico

SEPARATE VIEWS OF COMMISSIONER HENNOCK CONCURRING IN PART AND DISSENTING IN PART

1. For the reasons set forth hereinafter, I find it necessary to dissent from the Commission's decision in its Sixth Report and Order concerning:

A. *The Increases in Station Power and Antenna Height;*

B. *The Use of Channels #66-83;*

C. *The Procedure for Processing and Hearing Applications;*

2. With reference to the *Educational Reservations*, and the *Table of Assignments*, I am Concurring in the decision insofar as it adopts the principle of reserving channels for educational purposes and insofar as it assigns specific channels for such purposes, and Dissenting from the decision insofar as it fails to make a more adequate and proper provision for education herein.

* * *

A. THE INCREASES IN STATION POWER AND ANTENNA HEIGHT—(Pars. 143-165 of the Sixth Report)

The question of power and antenna height concerns in essence the relationship between the VHF and the UHF portions of the spectrum, as well as the development of television in the smaller communities of the country. By granting increases in power and antenna height the Commission, in my opinion, has unduly and unnecessarily enhanced the VHF at the expense of the UHF. As the UHF is the new and heretofore experimental portion of the spectrum containing 85% of all TV channels, and its use is so clearly necessary to a national system, the Commission should not

hinder its development by adding to the advantage held by the already highly developed VHF. Rather, the UHF should now be encouraged in every way possible so as to aid its development, establishment and eventual growth into an integral part of a truly nation-wide television system.

I believe therefore that the Commission in general should retain the provisions now in its Rules regarding power and antenna height for the lower VHF and finalize a maximum power of 50 kw for these channels (2-6) at a maximum antenna height of 500 feet, or their equivalent.[1] Retaining the maximum height of 500 feet, maximum power for the upper VHF (channels 7-13) should be raised to 150 kw to keep the 3 to 1 ratio adopted by the Commission tending to equalize potential coverage, and a maximum power of 1000 kw authorized for the UHF, to assist the early development of its high power operations. Even 50 kw (or 150 kw) at 500 feet, it should be noted, would permit increases in power and height for nearly all stations now operating which, despite already extensive coverage, are presently below these maxima.

The primary aim of this allocations proceeding must be the *maximum utilization of all television channels.* Certainly a system comprising only a few hundred VHF stations, each with the greatest possible coverage, would be most efficient from the point of view of these individual stations. This would not, however, even approximate a nation-wide system and it would be most unfortunate if the medium were to develop in such a manner, depriving scores of cities of their sole opportunity for local self-expression in television.

There are serious economic problems facing the development of the UHF against presently existing or future VHF service, basic to a determination of this question of powers and heights, which the Commission apparently has minimized or disregarded. Even the briefest consideration makes clear the difficulties confronting a potential UHF operator in a community now receiving no VHF service or only marginal VHF service, which community is subsequently flooded by reliable, multiple VHF signals from far-off, larger cities. First, the VHF sets purchased in the area, which may number in the tens of thousands and even approach "saturation," will not be able to receive local telecasts over UHF, without being converted.[1a] Furthermore, the VHF operations in the larger cities in all likelihood will, if established practices are continued, obtain exclusive rights to network affiliations and operations in the area, thus securing for themselves a large body of highly popular TV programming. In addition, the major national and regional advertisers who provide much of the necessary economic base for television operations will tend, for practical business reasons, to gravitate toward those existing VHF stations with extensive coverage. Thus, the potential UHF operation will predominantly be forced back upon new UHF and converted sets and upon local programming resources and local advertisers, which alone may not provide sufficient support for a television station.

Similar economic difficulties, with the exception of the set conversion problem, will also confront the establishment of a local, small city VHF station. Thus, provisions for height and power intimately affect assignments to smaller cities. The Commission has recognized that some delay is certain before television, more costly and complicated than radio, develops in these smaller cities. This very allocations plan has been expressly formulated to give these cities additional time to take advantage of their assignments, thus preserving their future opportunity for local television outlets. Mere assignments, however, are not enough; the Commission must also establish rules and conditions which make these assignments reasonably capable of being translated into actual operations.

There will be, irrespective of the power and height authorized, some degree of VHF overlap. This decision, however, substantially aggravates the amount of this overlap and to that extent may deter full development of the whole TV spectrum. To illustrate: Commission propagation data shows that operations at maxima of 50 kw and 500 feet in the lower VHF will, when limited by noise only, have a Grade B service radius of 52 miles. Operations at 100 kw and 2000 feet on these channels limited by noise only will, however, result in a Grade B service radius of 86 miles, an increase of 34 miles.[2] Expressed in terms of land coverage, this results in an increase of the station's Grade B service area from 8,500 square miles to 23,300 square miles.

While co-channel interference lessens the extension of coverage brought about by increased power and height, such extension will in all events be considerable. Thus at a separation of 220 miles, with both co-channel stations going to the maximum of 100 kw at 2000 feet, each station's Grade B service radius in the other's direction will increase from 50 miles to 67 miles. If only one station goes to the new maxima, its radius will increase from 50 miles to 76 miles in the direction of its co-channel station; although the latter, remaining at 50 kw and 500 feet, will suffer a 5 mile decrease in its service radius in the former's direction, the higher maxima will still effect a *substantial net increase* in overall coverage.[3] These increases, in my opinion, should not be permitted, particularly in view of the fact that the wider mileage separations and the use of offset carrier established in this Report have, by diminishing co-channel interference, already resulted in service areas greater than those provided prior to the "freeze."

The Commission's experience with FM, where the set problem was so crucial, should make it clear beyond question that practical economic considerations cannot be left largely to chance in the establishment of a new service. Moreover, the "safety factor," often referred to in this Report, would seem to require that there be no further major extension of the coverage of individual VHF stations throughout the country, at least until UHF clears its initial hurdles in getting started and more definite knowledge is gained concerning UHF and its interrelationships with the VHF. Nor should the application of this "safety factor" be limited to Zone 1, for the ultimate health of the UHF will have a vital bearing upon television development in all zones.[4]

To increase power and height now is irrevocably to cast the die in favor of the VHF and to take an unnecessary gamble with the future of our entire television system. Particularly in view of the Commission's statutory duty to "generally encourage the larger and more effective use of radio in the public interest," I believe that no further increases in power and antenna heights, beyond those minor ones hereinbefore indicated, should be permitted.

B. THE USE OF CHANNELS #66-83—(Pars. 26-32 of the Sixth Report)

The Commission, in my opinion, should have adopted and finalized the proposal in its Third Notice to give a substantial preference in these unassigned "flexibility" channels to cities without television assignments.[5] Under this proposal, a party in a city without television assignments (and not within 15 miles of an assignment) could have applied in a licensing proceeding for a "flexibility" channel. In contrast, a party in a city to which one or more assignments had been provided would have been ineligible to make such an application and would have been required to institute rule making proceedings to secure a "flexibility" assignment. Such a rule of "limited eligibility" protected the future interest of smaller cities without assignments in these "flexibility" channels, and thereby preserved what generally will be their sole opportunity to obtain local television outlets.

I believe that the Commission has erred in deleting this Third Notice proposal and in making unassigned channels available to all on practically an equal basis. The Commission's statements in this Report to the effect that these channels will "primarily" be used for communities without assignments (commercial and educational) are insufficient in the absence of specific safeguards and standards to accomplish such a needed result. The privilege given cities without assignments to petition for "flexibility" channels *even during* the general one-year ban on amendments to the Table does not offer anything near the substantial protection required. In view of the anticipated heavy demand for frequencies, the equal right of all parties (after one year) to petition by rule making for these channels and particularly the lack of any definitive criteria under which the Commission could withhold them against such demand, it is likely that most unassigned channels will be preempted by larger cities which already have multiple television assignments. I do not believe that we should so encourage the early appropriation of these channels at the expense of smaller communities which may, in time, be able and eager to support a local television station.

C. THE PROCEDURE FOR PROCESSING AND HEARING APPLICATIONS

By far the best system for processing television applications would be the so-called "two-lump" procedure; using it the Commission would separately process all VHF applications and all UHF applications for a given community and would order consolidated hearings when either the total number of VHF or UHF applications exceeded the number of available VHF or UHF channels. The "channel by channel" procedure and the requirement that applications specify transmitter sites will, in my opinion, cause unnecessary legal and administrative difficulties without obtaining any substantial gain in the number of grants without hearing issued by the Commission, and thus should not have been adopted.

Strong reasons exist for preferring the "two-lump" procedure even if it may be assumed (to my mind, incorrectly) that the other would be more expeditious. The "two-lump" method would enable the Commission more closely to meet its primary duty in licensing proceedings to choose the best qualified applicants in a community. For example, its use would obtain the three most worthy applicants (perhaps out of seven or eight) for three VHF channels that may be available in a given city. "Channel by channel," however, will at best obtain the most highly qualified applicant for *each* of the three channels; in so doing it may bypass one or two more worthy applicants who have been lost in the contest over a particular channel.

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[1] Thus, antenna heights of over 500 feet would be permitted for all channels when proportionate decreases in power were utilized to provide an equivalent ratio which would keep a station's particular contour constant. Such a practice has heretofore been followed and will be in the future with respect to heights over 1000 feet in Zone 1. (See Sec. 3.614 (b) (1) of the TV Rules).

[1a] It should be noted that the efficiency and convenience of UHF converters has not yet been proved. In view of the difficulties previously had with other converters, in FM and television, this remains a serious problem for existing TV sets.

[2] Statistics for the upper VHF show a comparable extension of Grade B service radius limited by noise only of from 44 to 80 miles as the result of equivalent increases but, for purposes of simplicity, only lower VHF figures have been used.

[3] In other directions, it should be noted, both operations would tend to approach the noise limitation figure of 86 miles referred to above, for the stations will not necessarily be limited in every direction by co-channel separations of this order.

[4] The temporary loss of some service to outlying areas if power and height are not increased is more than compensated for by the substantial enlargement of the opportunity for development of local TV outlets. Subsequently, if it should appear that some local outlets will not be forthcoming, the increases in power and height could then (in accordance with the "safety factor") be granted to extend coverage to these outlying areas.

[5] See Part II, Assignment Principles, of the Third Notice. These unassigned channels, known in the Third Notice as "flexibility" channels, in addition to channels 66 to 83 include those additional assignments which could, consistent with the standards established herein, be made on channels 2 through 65.

[6] This applies with equal force to UHF channels and applications, although for purposes of simplicity only the VHF is referred to. It should be noted that were it not for the desirability of getting UHF started against the advantage already held by the highly developed VHF, a "one-lump" procedure, including all the multiple applicants for available channels, would for the reasons stated herein be best and should have been adopted.

That all VHF channels are identical has been a basic principle of the allocations plan and the Commission has denied several counter-proposals in these proceedings which sought to distinguish between VHF frequencies as such. By permitting applicants to pick and seek particular VHF frequencies, the "channel by channel" procedure is inconsistent with this basic allocations principle.[7] Unfortunately, it also offers greater opportunity for and thus encourages maneuvering, pressuring and trading among applicants within available VHF channels. No one can believe that these competitive practices will be intended to or will produce applicants best qualified to serve the public interest and most dedicated to it. Clearly, the Commission should not abdicate to individual applicants its critical role in licensing proceedings; it should not select a procedure that puts a premium on their wiles and stratagems.

The contention that "channel by channel" offers greater speed is without substantial foundation in my opinion. Most likely, the number of early grants will be very much the same no matter which procedure is adopted. At best there will be a limited number of instances in which "channel by channel" will free for grant an application otherwise caught in hearing. It is unreasonable to anticipate many islands in the rough seas of VHF competition, instances where there will not be multiple applications requiring hearings for every choice VHF channel. In the case of UHF, the lesser competition will probably bring, in general, fewer immediate applications and should permit a quantity of uncontested grants, regardless of the method adopted.

In view of the anticipated heavy contest for VHF frequencies, it is probable that "channel by channel" will in many instances require multiple VHF hearings in the same community. This increase in the total number of hearings will, in view of the limited hearing staff, cause a serious delay in overall processing. It also raises the possibility of inconsistent results in these several VHF hearings in a city, due in part to the use of different Examiners and also to the varied and inconsistent decisional factors controlling licensing that may be present in each hearing.[8] Although a single Examiner for all of these VHF hearings reduces the dangers of inconsistent results, there remains the probability of varied and inconsistent decisional factors in them. Such an arrangement, in any event, would waste whatever time advantage "channel by channel" might otherwise have held, for the Examiner, in order to avoid giving an unfair "head start" to any applicant, would undoubtedly have to hold up his earlier decisions until all VHF decisions in that city were ready for simultaneous issuance.

The requirement for applicants' specification of transmitter sites, apparently one of the prime reasons for Commission adoption of the "channel by channel" procedure, is actually a cardinal weakness of it. Not only will it make more difficult and seriously slow up routine processing but it will require a heavy, and in most cases an unnecessary, expense for all applicants. It opens, moreover, an unfortunately wide avenue for those "backstage" competitive manipulations already referred to.

Since transmitter sites will be specified in more than 1000 applications, it is not unlikely that a good number of them will not meet the established mileage separations to other specified sites. Not only will co-channel separations have to be taken into account here, and adjacent channel separations as well, but, insofar as the UHF applications are concerned, also those many other separations established by the so-called "Taboo Table."[9] Particularly accentuating this difficulty will be the fact that in preparing an application for filing, there is no way for an applicant to know of the specified sites in other applications to be filed which will cause him to violate the minimum separations.

Every time specified sites violate the separations, a conflict requiring a hearing will be created involving applicants from different cities (as well as between other competing applicants in their respective cities).[10] These conflicts, closely resembling those arising in standard broadcasting, *are precisely those which the television allocations plan and Table of Assignments were designed to resolve and avoid.*

Only a relatively few such conflicts would be able to begin a chain reaction which would tie up extensive regions of the country and large numbers of channels in extremely complicated hearings. Even should the conflict and hearing be limited to applicants in two cities, it is indeed difficult to see what criteria the Commission would use to prefer an applicant from one city over his competitor in another (not to mention the other competitors in each city), for the Table of Assignments has already established that the operations of the several channels which may be involved are, in their respective cities, technically feasible and proper in every respect.

The transmitter problem could best be handled on a "site-to-be-determined" basis under the "two-lump" procedure. The transmitter site and its related issues would then play no part in a comparative hearing. Only the successful applicant (or applicants) holding a construction permit would be required to secure a site meeting minimum mileage separations. Any difficulties in so doing could more easily be ironed out within the greater flexibility of informal, administrative processes. Given the result in either case of sites within the minimum separations, the procedure which reduces difficulties to a minimum should be preferred.

In view of the foregoing contrast of its assured benefits against the probable minimal gains and the serious difficulties entailed in the other procedure, there is every reason to adopt the "two-lump" method for the processing and the hearing of applications.

D. THE EDUCATIONAL RESERVATIONS, AND THE TABLE OF ASSIGNMENTS, to which I Concur insofar as the decision adopts the principle of reserving channels for educational purposes and assigns specific channels for such purposes, and to which I Dissent insofar as the decision fails to make a more adequate and proper provision for education herein.

I

I am in complete agreement with the Commission's action in finally adopting the principle of indefinitely reserving television channels for non-commercial educational purposes. I concur, therefore, in the Commission's decision insofar as it has finally reserved specific channels in cities throughout the United State. Both Commission recognition of the principle and the specific reservations mark a significant step forward for educational-TV. I believe, however, that the Commission's provision for education herein is deficient in many vital respects, both general and specific. By failing to provide education with its rightful share of the television spectrum, the Commission, in my opinion, runs the risk of stunting the growth of educational-TV in the formative days of its infancy and of forever retarding the future of our entire educational system.

My Separate Views to the Commission's Third Notice, issued March 21, 1951, pointed out certain defects in the proposals therein respecting educational television in the hope that they would be remedied before final action was taken. Our decision today, however, in large measure finalizes these proposals and thus freezes into permanency most of the flaws and shortcomings contained in them. Furthermore, their adoption has resulted in numerous errors in the specific allocations of the Commission's Table of Assignments. In view of the finality of this action, the additional evidence adduced by educators in the city-by-city hearings and the constantly increasing advancements in educational-TV, I now feel even more certain that the Commission has grievously erred in not providing education with the reservations it needs and deserves and that, in so doing, it has worked an injustice to the public interest.

II

In order to give a proper perspective to the Commission's action, certain background facts should first be stated in summary form. It is fundamental that the Commission is herein shaping the nature and course of television operations for generations to come. In this decision, the Commission allocates and opens up for licensing almost all of the frequencies that now remain available for television service. Education in general will not immediately be able to claim and use these television channels; it will need, as the Commission recognizes, additional time in which to secure funds, evolve organizational structures and, just as important, investigate and develop the new, expanded role which it can, through television, play in the community.

In view of the pent-up commercial demand for television facilities and the certainty of their early preemption for regular commercial operations, only the reservation now of a substantial number of channels will insure their availability for future, full-scale educational use. Provision for education in television must literally be made now or never. Since education cannot in the immediate future compete for the remaining channels, the absence of a reservation in any city is almost a death blow to its opportunity for an educational-television service.

III

There has been no question as to the tremendous potential inherent in large-scale use of television by educators. TV, as the "electronic blackboard," is a teaching tool of rare power and persuasion. Combining sight and sound, blessed with an immediacy of transmission and impact, welcomed by and available to almost everyone, television offers an unprecedented opportunity for education, both formal and informal. It is uniquely capable of serving all of our people in our schools, homes and factories on a constant and intimate basis. It can do so, moreover, at a cost which is extraordinarily low when full account is taken of its effectiveness and extensive coverage.

To refer to educational-TV, however, is no longer to speak merely of a potential, however basic such considerations might be. The steadily expanding volume of educational telecasting and the many successful experiments in teaching through TV are already realizing the potential of this new medium in every day life.[11] These activities show only a sample of what education could do with its own full-time stations; they provide increasing proof that television, in the hands of educators, could revitalize and expand our entire educational system and do so at a minimum cost.

IV

The phenomenon of television has had an unprecedentedly rapid growth; it has become in only six years an integral part of the lives and habits of millions of people. Already possessing major standing among the mass media, its power and influence will without question soon be second to none. It is particularly irresistible to children, tens of thousands of whom already spend more time before their TV

[11] [See Column 1, page 168]

[7] The "two-lump" procedure on the other hand is not only consistent with the fundamental principles of the allocations plan but is the procedure which in essence has been used by the Commission in FM and heretofore in television. It represents too a sound departure from the method used in AM, where a "channel by channel" procedure was permissible for licensing proceedings brought in the absence of an engineered allocations plan and Table of Assignments.

[8] Thus, for example, depending upon the lineup of applicants for particular VHF channels, the basic factor of local residence may be without substantial significance in one hearing where both applicants possess it, substantially overlooked in another hearing where neither applicant is local to the community, and determinative in a third hearing where one applicant is a local resident and the other is not. Under the "two-lump" procedure, however, all decisional factors would play a consistently equal role in the results for all VHF channels.

[9] See Sec. 3.610 (b) (3) of the Rules. Briefly to list them, these "Taboo Table" separations, *all involving different channels*, include I. F. beat (20 miles), Intermodulation (20 miles), Oscillator (60 miles), Sound Image (60 miles) and Picture Image (75 miles). *Every one of these separations will have to be taken into account in every direction in measuring and determining the interrelationships of all transmitter sites specified.*

[10] Since educators will also be required to specify transmitter sites, they may similarly be forced into conflict with commercial interests in other cities, a situation inconsistent with the basic non-competitive principle of a reservation. Moreover, in such conflicts there are no established criteria under which the Commission could choose between an educator in one city and a commercial applicant in another.

receivers than they do in school.

Television, like other technical innovations, is neutral in character; its use (or rather, our use of it) will ultimately determine its value. In view of television's extraordinary influence, which must grow rather than abate in future years, the Commission has an especial responsibility to the public—adults as well as children—to insure that this great natural resource to a substantial degree is devoted to cultural interests, to education as well as entertainment. The Commission's lawful task is not merely to establish the technical framework for television service. The public must not only be reached, it must (in the truly beneficial sense of that word) be "served." The Commission's goal, within the ambit of its statutory powers, should therefore be to bring about the best possible television service for the American people. The participation of educators on a full-scale basis is indispensable to its achievement.

V

It is clear from the record in these proceedings, as it is from the entire history of broadcasting, that educational stations can and will make a distinctive and valuable contribution to television. Although there are commercial stations which, as part of their public service responsibilities, have granted time and facilities for educational telecasting, these programs at best do not even begin to satisfy education's need in television. Commercial stations in general cannot provide, nor in all fairness could they be expected to provide, a complete educational service. Only a system of independently licensed educational stations operating full-time on a non-commercial basis can accomplish such a service.[12]

Educational-TV stations, when established, will do more than furnish a uniquely valuable teaching aid for in-school and home use. They will supply a beneficial complement to commercial telecasting. Providing for a greater diversity in TV programming, they will be particularly attractive to the many specialized and minority interests in the community, cultural as well as educational, which tend to be bypassed by commercial broadcasters thinking in terms of mass audiences. They will permit the entire viewing public an unaccustomed freedom of choice in programming. Educationally licensed and operated stations will, in addition, result in a substantial and beneficial diversification in the ownership and control of broadcast facilities. This would be closely in line with established Commission policy which has sought to achieve such diversification through the exercise of its licensing authority. Finally, educational stations will provide the highest standards of public service. Introducing non-commercial objectives and activities, they will be a leavening agent raising the aim and operations of our entire broadcasting system.

VI

The Commission's mandate, in these circumstances, requires it to provide a thoroughgoing opportunity for education in television, to grant educators an *adequate* "home in the spectrum." It can do so only by maximizing the number of reservations for education and realistically implementing its action here and in its Rules and Regulations so as to encourage and enable educators to take full advantage of these reservations. By "maximizing the number of reservations," I mean the necessity of giving education one of the *paramount* priorities in the allocation of channels and of reserving as many assignments as possible, consistent with the other *major* needs in the spectrum. Certainly the Commission has not adopted or applied such a policy here.[13]

There can be no doubt that the television spectrum in the main should be devoted to commercial operations in accordance with the traditional concepts of our broadcasting system. Commercial broadcasting plays a vital function in the development and operation of this system, one which the noncommercial cannot fulfill. Educational television has, however, its own uniquely valuable contribution of public service to make to this system. Thus, only by establishing a high ranking educational priority could the Commission meet its obligation, inherent in the Communications Act and expressly recognized in its 1935 Report to Congress respecting Section 307 (c) of that Act, to "actively assist in the determination of the rightful place of broadcasting in education and to see that it is used in that place."

In establishing a scale of relative values, upon which its allocations and assignments are based, the Commission has sorely undervalued education and placed it in a grossly subordinate position. As a result of the Commission's failure to strike a proper balance of the various interests here involved, education has not been provided with the proportionate share of the channels it deserves. Certainly commercial broadcasting should get the "lion's" share of these TV frequencies; it should not, however, get the "lamb's" share as well.

VII

The evidence of educator's deep interest in television and the steps they have already taken or contemplate as to the building and operation of TV stations is detailed, voluminous and persuasive. Educators' affidavits have, in scores of instances, gone far beyond expressions of mere willingness or hope. They have set forth concrete facts and figures; they have particularized in minute degree the why's and how's of their plans for educational television. Merely to glance through them—to mention only the affidavits of the New York State Board of Regents, the New Jersey Board of Education, the Wisconsin State Radio Council, the Universities of Kansas, Houston, Ohio State and Southern Illinois, of educators in the cities of Milwaukee, Houston, Pittsburgh, Chicago, San Francisco, Boston, etc.—establishes conclusively that education, given a proper reservation, will make excellent use of the facilities set aside for it.

The Commission holds herein that the entire record in the general portion of the proceedings overcomes objections to the basic principle of reservations.[14] In the same way, the entire record in these proceedings, particularly the evidence in the city-by-city hearings, should be held to overcome any and all objections to finalizing specific reservations herein. Cumulatively, this entire record supports a maximum number of reservations sufficient for a nationwide service, which would allow almost everyone in this country to enjoy the benefits of an educational "school of the air." At the very least, this record requires that the Commission finalize all of the reservations proposed in the Third Notice and grant, in the absence of more basic considerations to the contrary, those other reservations specifically requested by educators herein.[15]

VIII

With the foregoing remarks to serve as background, we may now turn to an examination of the Table of Assignments itself. In my opinion, the Commission's provision for educational-TV is *generally* inadequate in that:

> a. *It fails to reserve sufficient channels for a nationwide educational service.*

Since reservations for all practical purposes are indispensable to the establishment of educational television stations, it is axiomatic that only a policy of setting aside channels on a nationwide basis will accomplish the development of a truly national educational service. Yet, the 233 reservations finalized by the Commission, representing approximately 11.6% of the total number of assignments, fall woefully short of providing the requisite number of channels for such a service. They allow at best for haphazard and inequitable educational development of the medium.[16]

There is no allocation for educational-TV in approximately *one-fourth of all of the metropolitan communities* in this country. This includes cities as large as Youngstown (Ohio) with a metropolitan area population of 525,000; Allentown-Bethlehem (Pennsylvania) with a population of 430,000; and Springfield-Holyoke (Massachusetts) with a population of 400,000. The people in these many large cities, therefore, will probably be deprived for all time of a valuable educational service which their more fortunate neighbors in comparable or smaller communities may soon enjoy.

Similarly, there is only a single reservation provided for each of the following states: Massachusetts, Maryland, Kentucky, Wyoming, Delaware, Rhode Island and Vermont, out of a combined total of 114 channels assigned to them. Only two reservations have been provided for the entire states of Minnesota, Nebraska, Arizona, Idaho, Nevada and New Hampshire. In New York City where scores of educational and cultural institutions serve more than 11,000,000 people in the area, only one channel has been reserved despite the forcefully documented request of the New York State Board of Regents for a second channel to meet the combined needs of the Regents, the City itself, the Board of Education and the many private schools and institutions of higher learning located there. This is done despite the fact that New York City is today the primary production center for commercial television and its many writers, artists and technicians would likewise be

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[11] The dynamic aspects of the growth of educational television have been dramatically illustrated, not only on but off the record where they must be common knowledge to the Commission. Each month brings a larger number of schools into this field, sponsoring and producing telecasts, initiating classes and workshops (both technical and creative) and securing and operating their own television equipment, including studios and closed circuit operations. (See *inter alia* JCET Exhibit 647). Regular educationally sponsored telecasts of several years standing have proved most successful and have continually been expanding. An outstanding example is found in Philadelphia where the TV "School of the Air", used as part of the regular curriculum in the classroom, has been in operation since 1949 and where, last year, the TV "University of the Air" commenced operations to provide adult education in the home under the joint sponsorship of the area's 19 schools of higher learning. Together, these two programs now telecast a total of nine half-hour programs per week over the three stations in that city. Regular educational telecasts on a more modest scale have been seen also in other cities, including Detroit, New York, Newark, Miami, Chicago, etc. These programs cannot, however, as indicated above, provide anything near an adequate substitute for education's own TV stations.

In the past year, several educational organizations have developed plans for state-wide TV neworks. The exhaustive proposal of the New York State Board of Regents is the most highly developed of these, but initial steps toward such networks have also been taken in Wisconsin (now operating a state-wide radio network of eight stations), New Jersey, Connecticut and Washington.

And only a short time ago, a conference in St. Louis of leading educators, citizens and organizations in this field laid the groundwork for a national educational-TV network to facilitate the building and operation of non-commercial stations. This conference underscores the swiftness of developments here, for the possibility of cooperative endeavor within a particular city is herein marked as a significant step forward. (See Par. 44 of the Sixth Report).

[12] This record and history of broadcasting further establish that commercial radio and television over the years have in general failed to give even a barely minimal opportunity for educational broadcasting. The need for educational stations, however, would as above stated, exist even if this were not the fact.

[13] The sole allocation principle respecting education adopted by the Commission is that which assigns a channel to those cities which are primarily educational centers. *Beyond this, education has played no part in the allocations of channels;* the Commission has merely reserved one channel in a city when, by applying allocation principles, three or more have been assigned to it. For these reasons, the Joint Committee on Educational Television has requested that the Commission adopt an educational priority to serve as a basic principle in the allocation of channels. (See Pars. 83-4 of the Sixth Report). Despite the Commission's glossing over of this request, it should be noted that many more reservations would have been provided herein if such a high-ranking priority had been adopted before the issuance of the Third Notice or this Final Decision.

[14] Par. 44 of the Sixth Report.

[15] It should be noted that educators have unfairly been required to participate in both the general and city-by-city portions of these proceedings. To my mind, the Commission in the public interest could and should have provided a substantial number of reservations in its final decision without requiring any showing from educators in either portion and certainly without requiring one in both.

[16] Thus, for example, by providing a reservation in every city in which two assignments were proposed by the Third Notice (rather than the three assignments used as the basis for reservations in that Notice), the Commission could have set aside an additional 146 assignments for education. These would, of course, allow for a closer approximation of a nationwide system. (See my Separate Views to the Third Notice for a discussion of cultural monopoly as contrasted to the economic variety, Section II). It has also been my constant position that the Commission had the responsibility to make or initiate a study of educational needs throughout the country to serve as the basis for television allocations to education.

of great value to educational television.

b. *The reservations have predominantly been confined to the ultra-high (UHF) portion of the spectrum and an insufficient number of VHF reservations provided:*

By limiting education to UHF frequencies in cities in which commercial television over VHF has already made substantial inroads, or will soon do so, the Commission has placed the educators there at a fundamental disadvantage. This situation exists in a large number of cities, including such major communities as Detroit, Philadelphia, Cincinnati, Cleveland, Washington, etc. While it may be true that some educators in these circumstances will find UHF operations only a "temporary handicap," for others it may prove to be a permanent disability. The public's stake in educational-TV is too great to be forced to rest on such speculation.

The past year since issuance of the Third Notice has further aggravated this problem, and made even clearer the inadvisability of forcing education into the UHF in these cities. More than 16 million TV receivers are now in the hands of the public and, in many communities set ownership nears or stands at the "saturation point." Educators undertaking the task, considerable in itself, of raising funds for non-commercial operations will be faced with the difficult obstacle that their UHF operations in these cities would not be capable of being received by a single one of the millions of outstanding sets, unless these sets are first converted.

No one can be unmindful of the fact that commercial operators attempting UHF telecasting in cities with established VHF service will themselves be handicapped by an initial competitive disadvantage.[17] But, however great this problem of integrating UHF into existing VHF operations may be, it can best be handled by commercial operators who are spurred on by competitive motives and possible monetary profits and it properly should be entrusted to them. For the Commission to force education to carry what is essentially a substantial commercial burden is unrealistic and unwise, for it appreciably limits the opportunity a reservation offers to educators.[18]

Education's share of the VHF is clearly inadequate. Not a single VHF reservation has been provided for the states of New York, Michigan, Ohio, Indiana, Connecticut, New Jersey, Virginia, West Virginia, Nebraska, Kentucky, Rhode Island, Delaware, Vermont, and Maryland, out of a combined total of 97 VHF channels assigned to them. Only a single VHF has been reserved in each of the following states: Massachusetts, Pennsylvania, Wisconsin, Missouri, North Carolina, New Hampshire, Maine, Mississippi, Nevada, South Carolina, Utah, Idaho, Wyoming and Louisiana, out of a combined total of 136 VHF assigned to them. Thus, *in 28 states*, including many of the leaders in population and resources which have particular need for educational television, *educators have received fourteen VHF out of a total of 233 assigned.*

In order to correct this inequitable distribution of channels to education, the Commission should have, whenever possible, placed in the VHF the additional reservations allocated herein and should have made particular effort to provide a VHF reservation in the "closed" and predominantly VHF cities.

c. *The Commission has improperly bound its policy of reservations too closely to a showing of present demand by educators.*

A study of the specific assignments herein clearly establishes that the Commission has refused to extend its reservations to the cities necessary for a nationwide educational service *solely for the reason that no showing of demand for such reservations has been made by local educators* in these cities. On this same basis the Commission in several cities has deleted proposed VHF reservations. Only in cases where a proposed reservation has not been opposed by commercial interests has the Commission finalized reservations, whether VHF or UHF, without requiring evidence of educational demand. In all other instances educators have supported the proposed reservations in their respective cities.

Reservations are too critically needed, however, to be made to depend on showings of present demand. That local educators in each and every city affected have not, at this premature date in the early history of TV, given formal assurances of their intention and ability to make use of the medium, should not be material here. In this crucial area of public welfare, the Commission must not rely solely upon the self-interest and awareness of present-day educators to delineate and prescribe future educational needs in television. The public interest, in my opinion, would have required the Commission to make substantial reservations in this allocations proceeding, *even if* educators had made no formal showing of any kind on this record.

As amply shown on the record and spelled out by the Commission herein,[19] the fact that many local educators in specific localities are not now ready to claim frequencies is a basic reason for the very principle of reservations and precisely because of it have channels now been set aside for future educational use. It is therefore grossly inconsistent and incongruous to hold present educational demand to be unnecessary in determining the general principle requiring reservations, and then to make it an essential in the city-by-city hearing concerning specific reservations.

If the Commission is, however, to require a showing of educational demand, despite the above objections to such a policy, it would be much more valid for it here to point to and rely on the great quantum of evidence from educational institutions and communities that are now ready, willing and, in some cases, even able to begin full-time television operations as the basis for a more liberal policy towards education. It is to those eminent educators who have taken the lead in TV that we should look, if we must, to determine what in general may be expected from education in years to come.[20] Uniformity of opinion and action from every community in the nation is simply too much to expect. That it has not been manifested is in no way proof of any permanent lack of interest by less advanced or smaller schools or any fixed inability on their part to undertake singly or cooperatively, the operation of their own non-commercial stations. It is solely and simply due to the fact that in educational television, as elsewhere, some must lead so that others may follow.[21]

The very purpose of an allocations plan and the Table of Assignments is to erect a bulwark to protect TV's development against the inroads of present demand. This purpose should apply consistently to both educational and commercial allocations, and neither the reservations nor commercial assignments to the smaller cities should be limited by the fact that identifiable persons or groups have failed to articulate formally a determination and ability to use the facility. The future rights of the commercial and educational interests that are not yet sufficiently vocal to appear in these proceedings are precisely those which the Commission has the primary duty to protect.

An overall national allocations plan for the distribution of all television channels in the public interest must not be grounded predominantly upon considerations of immediate demand. This is true even where, as here, such demand may be expressed in the form of affidavits rather than as applications for construction permits. In establishing the structure and nature of our future television system, the Commission must look beyond contemporary opinions and attitudes that patently are underdeveloped and which assuredly will change with time and circumstance. To do otherwise is to tie the future with the bonds of the past.

d. *The Commission in its allocations improperly fails to distinguish between educational and commercial assignments.*

The Commission in acting upon the assignments for specific cities has considered education merely as one of the television services to be provided for a given community. It has failed in every case to recognize the essential distinction between the educational and commercial television service, which calls for their different treatment. The function, scope and mode of operation of educational television differ markedly from those of commercial telecasting. An assignment for education is not designed solely to bring another TV station to a community, but to provide a separate and unique service to it, permitting fuller expression of its educational and cultural interests. In keeping with this distinction a city already served by commercial stations may be entitled to an assignment for education even though, on comparative factors, no additional assignment for commercial purposes could be permitted to it. This is vital in specific assignments for such cities as Detroit and Columbus, hereinafter discussed.

The Commission has heretofore recognized the difference between the educational and commercial services. In FM it has set aside a separate block of channels exclusively and entirely for non-commercial educational stations. The only reason for not utilizing this method of "block reservations" in television, as expressly stated in the Commission's Third Notice, was in order to achieve greater efficiency of allocations throughout the entire Table of Assignments.[22] That the Commission now chooses in TV to proceed by reserving specific channels in individual cities should not, however, cause it to lose sight of the essential fact that education is a completely separate and distinct service and should be so treated.

e. *This decision will in general exclude education from the unassigned portion of the TV spectrum, the "flexibility" channels.*

The Commission has, as hereinbefore stated, established channels 66 to 83 as a pool of unassigned channels, known in the Third Notice as the "flexibility" band. Although these unassigned channels represent more than 20% of the entire television spectrum, the Commission has provided a total of only *fourteen* assignments for education in them. Even this small number has been set aside solely upon specific demand by educators in the cities affected.

By making these unassigned channels available (after one year) on a demand basis to any party instituting proper rule making proceedings, the Commission has severely limited educators' opportunity to secure any further assignments in them. The Commission's statement herein that these unassigned channels will "primarily" be used for communities without educational (and commercial) assignments does not afford an adequate protection to educators, since no specific standards have been provided to effectuate this intention.[23] In light of the Commission's own acknowledgments that educators need a longer time to enter television, it is impossible to attach substantial significance to the provision herein permitting educators to file for an unassigned channel *even during* the coming year when most proposed amendments to the Table will not be accepted.[24] A one-year preference to these unassigned channels is as illusory as would be a one-year reservation.

The Commission's provision for

[17] As expressly stated in Par. 200 of this Report. See also my Dissenting Opinion dealing with Powers and Antenna Heights, Part A, herein.

[18] An extreme instance of such unrealistic allocations is found in ten cities, in each of which the Commission has made two VHF assignments and then has reserved for education *the only UHF* channel assigned there. These cities are: *Bangor* (Maine), *Great Falls* (Montana), *Dickinson* and *Williston* (North Dakota), *Pierre* (South Dakota), *Walla Walla* (Washington), *Laredo* (Texas), *Huntington* (West Virginia), *Toledo* (Ohio), and *Syracuse* (New York). Moreover, in every one of these cities, except Syracuse, there was at least one of the assigned VHF channels available for reservation.

[19] See Pars. 37-44 of the Sixth Report.

[20] See Section VII, herein.

[21] So, for example, America's unique system of free public schools did not have an instantaneous and simultaneous development in all parts of the United States, but rather developed first in the larger cities, such as New York and Philadelphia, and thereafter spread in time throughout the country. Educational-TV is presently, in a much more critical situation than was the public school system in its initial phases, for assignments are necessary now in order to preserve even the opportunity for future growth and development.

[22] Par. 6 of Appendix A of the Third Notice.

[23] Set forth in Footnote 11, Page 13, of the Sixth Report.

[24] Set forth in Footnote 11, Page 13, of the Sixth Report.

"flexibility" channels, particularly insofar as education is concerned, is therefore completely inconsistent with the fundamental principles followed by it with respect to channels 2 through 65. *To be consistent and equitable, the Commission must establish a firm principle under which education would have a preference in "flexibility" channels equivalent to its reservations in the other channels.* This preference could be accomplished by a rule of "limited eligibility," such as spelled out hereinbefore for smaller communities without television assignments. (Part B of this Opinion). In other words, I would retain the proposal concerning "flexibility" channels contained in the Third Notice and extend it to include cities without educational assignments, instead of almost completely deleting that proposal as the Commission has done in this Report.

f. Eligibility for the licensing of non-commercial stations has been unduly limited.

I believe that municipalities should be made eligible in every instance to operate stations on reserved non-commercial channels. To limit eligibility in general to educational institutions is, in my opinion, unnecessarily strict, for in many instances it may prevent the most efficient administration of the licensed channel and may even result in the complete loss of an otherwise ready and valuable licensee.

In providing for this new and unique educational service, the Commission should not be unduly restrictive of its future development. Television is so much more costly than aural broadcasting and involves such substantial differences in organization and operation, that practices followed in FM should not necessarily be binding here. As the city usually holds authority over the public school system, it is not only incongruous but it contradicts the basic principle of licensee responsibility to provide that its subordinate entity is eligible for license while the city itself is not. Moreover, in many instances the municipality could more efficiently operate the station, particularly so when it has jurisdiction over the many and varied educational and cultural institutions in the city.

It is clear that every licensee of a reserved channel will be required to broadcast exclusively on a non-commercial basis, featuring specialized educational and cultural programming, and will be bound by the general requirements for co-operative arrangements among all educational institutions in the area. In view of these careful limitations as to the nature and scope of educational-TV operations, I can see no reason why the Commission's Rules should in any case prevent a municipality which is ready, able and otherwise qualified to build and operate a station, while the area's educators are not, from bringing this vitally needed service to the public. [26]

IX

Had the Commission adopted and applied the general principles set forth above, adequate provision for education would have been achieved. Since it did not, however, and for the further reasons enumerated below in particular cases, I find it necessary in several instances to dissent from the Commission's final Table of Assignments. My objections to specific assignments may be grouped in the following categories:

a. *Proposed VHF reservations have been deleted.* (Pars. 431, 588, 611 and 586)

In *Indianapolis* (Indiana), *Kansas City* (Missouri) and *Omaha* (Nebraska), the Commission has improperly deleted proposed VHF reservations and substituted UHF reservations in their place. In *Columbia* (Missouri), a proposed VHF reservation for a "primarily educational center" has been deleted without any substitute reservation provided. [28] I believe, however, that the VHF reservation should have been retained and finalized in every one of these cities.

These deletions have been based upon the lack of local educational demand for VHF reservations and commercial opposition to them. The basic fallacy of a policy predicated upon demand has already been pointed out and is fully applicable here. Reservations, it should be remembered, are primarily set aside for the benefit of the people who will be served by these non-commercial stations. A reserved channel therefore confers no interest which local educators can refuse, barter or sell. The only right an educator has in a reserved channel is one of use and service, subject to Commission approval and its Rules and Regulations. If he is unwilling to exercise this right, no matter his position or influence, the VHF channel should remain reserved in that community for the use of its more enlightened and public spirited citizens and educators.

The public interest should not here be neglected solely because educators now in office refuse to accept or recognize television's opportunity and challenge. Not only may changes in administration bring about a change in the thinking of their institutions, but the passage of time and the example set by other educators using TV, may bring about radical revision even in their own attitudes. They may then be quick, if the channel is gone, to demand its return and cry that the Commission should have guarded them against their own error. We have seen such a cycle in radio and must insure against its repetition in television. The Commission must not adopt the shortsightedness of a few as its own basic policy.

It should be noted here with regard to all allocations that the contest for assignments is now largely confined to the VHF frequencies, and particularly to those cities in which VHF stations are already on the air. Thus, of the 73 cities in the United States in which the Commission had proposed VHF educational assignments, commercial interests in 22 of these cities have objected to the reservations and requested that they be deleted. In fully half of the 26 instances in which a VHF reservation was proposed for cities with presently operating stations, commercial objections were received to such reservations. Yet, at the same time, there was not a single commercial objection seeking to delete specifically proposed UHF reservations, although a total of 127 had been proposed by the Commission. [27]

Without doubt, however, a tight situation such as exists where VHF is now operating is only being delayed in the remainder of the VHF and in the entire UHF, and will develop there with increasing intensity as available TV assignments are taken up. To insure the full and unrestricted opportunity in television that education needs and deserves, the Commission must now stand firm against the immediate claims of commercial expediency seeking deletions from those few VHF channels which have been reserved.

b. *Additional VHF and UHF assignments have been provided without being reserved for educational purposes.*

1. In its Third Notice the Commission set forth the principles for determining allocations to education, which provided in part for a reservation in every city with three or more assignments and a VHF reservation in cities with at least three VHF assignments of which one was still available. The Third Notice scrupulously followed these principles in proposing its assignments and reservations. Yet, in several instances herein the Commission has provided a number of additional assignments which these principles would require to be reserved for education, but in every instance save one the Commission has deviated from the principle, failed to make such reservation and, instead, has assigned the channel for commercial use. [29] It has done so solely on the basis that no educational demand has been manifested for such reservation. This is the case in *Youngstown* (Ohio); *Scranton*, *Altoona* and *Harrisburg* (Pennsylvania); *Santa Barbara* (California), and *Bellingham* (Washington) where third assignments have been provided, and in *Lubbock* (Texas) and *Buffalo-Niagara Falls* (New York) where third VHF's have been assigned, the latter by virtue of the combination for assignment purposes of those two cities into one metropolitan area.

The Commission has failed to give any reason why the general pre-established rules respecting educational allocations should not be applied to these additional assignments. How can the Commission consistently distinguish those instances where a city received its assignments under the Third Notice from those where that third assignment, or that third VHF, came to it as the result of the city-by-city hearings? Furthermore, in only a single one of these instances (Buffalo) did the commercial interests requesting the additional assignment refer to or deal with the question of whether this assignment, if made, should be reserved for education as required by the principles of the Third Notice or should be made available to commercial interests. Therefore, in order to achieve a consistent application of these aforementioned principles, the Commission should reserve every third assignment and third VHF, above specified, for educational purposes.

2. Similarly the Commission has allocated a first or second VHF channel to several cities, but in no case has this VHF been assigned for educational purposes, although there was clear need for such action and the educators affected have strongly articulated their support of educational assignments. Thus, in Hartford (Connecticut), the added VHF assignment, if reserved, could immediately serve as the hub of a contemplated state-wide educational network. In Bay City (Michigan) *where local educators made a strong showing for a VHF channel*, the Commission disregarded it despite the fact that an additional VHF was assigned to that city. Although that VHF was not the exact one requested by Bay City's educators, it should be noted that the Commission did not find such circumstance to be an obstacle, when, *on its own motion*, it allocated VHF 10 to Altoona (Pennsylvania) although commercial interests there had demanded the assignment of a completely different VHF channel. [29] This example illustrates the pattern of Commission inconsistency; it deviates (in Youngstown, Lubbock, etc.) from principles requiring reservations on the basis that no educational demand has been manifested, and yet in Bay City it adheres to principles restricting reservations even in the face of clear demand for such assignments.

While it is true that the general principles of the Third Notice do not require these additional VHF's to be reserved, I believe that ordinary fairness at least requires consistent Commission action in like situations, whether commercial or educational. In these above-mentioned instances, the entire record so well supports education's need for the VHF channels involved that they should be set aside in every one of these cities.

c. *VHF reservations requested for early educational operations have not been provided.*

The Commission must not only reserve channels for education but

[26] The Commission has recognized this need to some extent by providing for municipality eligibility in certain limited instances. (See Pars. 50-3 of the Sixth Report and Section 3.621 (c) of the TV Rules).

[28] Another deletion of a VHF reservation, in effect, was made in *San Diego* (California) where the Commission's Third Notice had proposed to reserve VHF channel 3, and strong support for such a reservation had been received from local educators. Subsequently, due to an agreement with Mexico respecting border allocations, the Commission deleted one VHF of the three assigned to San Diego, that one being VHF channel 3 reserved for education. Since no other VHF has been reserved in San Diego, it is clear that education there has been forced to bear a disproportionate cost of this international agreement. *Storrs* (Connecticut) is a substantially different matter, for there the proposed UHF reservation was shifted to another Connecticut city in order to provide a more efficient system of reservations for a state-wide educational service. (Par. 283 of the Sixth Report).

[27] In Madison (Wisconsin), it should be noted, a commercial request to move the proposed reservation from the UHF to VHF was denied expressly on the basis that no educational demand for the VHF supported this request. (See Par. 581 of the Sixth Report.)

[29] Only in Sacramento (California), where the Commission has reserved the third VHF assigned to that city have the principles of the Third Notice been followed; even here such assignment was not due alone to those principles, but as much, if not more, to the local educators' demand for the VHF reservations.

[29] Par. 370 of the Sixth Report.

it must implement its reservation in a realistically effective manner, reasonably calculated to bring about the actual operation of these channels. In order to achieve large-scale educational use of television, it is clearly imperative that there first be pioneers into the field whose stations will provide a strong stimulus for the entire movement and serve as "pilot plants" for similar operations. The Commission, however, has made practically no allowance for this need and in almost every instance has refused to provide the additional VHF reservations which have been requested for immediate or early educational operations. In so doing it has rejected forceful showings of the public interest requiring such assignment.[30]

The particular facts in each of the following cases further demonstrate the validity of these requests for VHF reservations:

1. *Columbus* (Ohio) Par. 417 of the Sixth Report)

Ohio State University in Columbus is now ready, willing and able to make immediate use of VHF 12 in Columbus and it already has on file an application for a construction permit to build on that channel. Ohio State is without question among the leading and most influential institutions in the field of educational broadcasting. Its activities began in 1922 and have continued on a constantly increasing scale to the present time over its own Stations WOSU and WOSU-FM. Its annual broadcasting budget presently exceeds $150,000.

With a VHF channel, Ohio State could immediately carry its leadership into television and give a needed impetus to the development of this new, specialized medium. The existence of three operating VHF stations in Columbus, however, and the high percentage of VHF set ownership there, near a saturation point of 55%, requires Ohio State, as a practical matter, to secure a VHF channel for its operations. Without a VHF, its operations will be delayed and it becomes a matter of speculation when the school will enter television on a full-time basis.

Undeniably, the shifts in assignments which would be required in order to bring VHF 12 to Columbus present certain difficulties. The Commission, however, should not merely "count the noses" of comparative populations nor make the bare number of channels involved the determinative factor.[31] In this situation, I believe that the proper application of allocations principles and the public interest require the Commission to make this requested assignment of VHF 12 to Columbus for educational purposes.

2. *Detroit, (Michigan)* (Par. 479 of the Sixth Report)

The Board of Education of the City of Detroit has requested, by a series of channel shifts, the assignment of a fourth VHF (11) in that city in place of UHF Channel 56 proposed to be reserved there.[32] I believe that the three existing VHF television stations in Detroit, as well as the 600,000 TV sets in the hands of its public, makes a VHF reservation necessary if education is not to be placed at an initial handicap in its operations in Detroit. Furthermore, education there has already had extensive and successful experience in actual television programming and is, therefore, uniquely capable of quick expansion into full-time educational operations over its own independent station.

The Commission's actions here and in Columbus reveal striking inconsistency. Rejection of the Ohio State request for a VHF assignment was predicated upon a comparison of the relative populations of Indianapolis, Clarksburg and Huntington as against Columbus and, in addition, the net loss of one VHF channel caused by that counterproposal. While disapproving the use of such a numerical yardstick in this proceeding, I firmly believe that its consistent application would have resulted in a grant of the educational counterproposal for Detroit. The gain of a fourth VHF in Detroit, the fifth largest city in the country with a metropolitan population of 3 million, together with a first VHF for Bay-City-Saginaw with its 240,000 population, as requested, would more than compensate in my opinion for the loss of the second VHF proposed in Toledo with its 400,000 population and the first VHF proposed in Flint with its 270,000 population. There would be no net loss in the total number of VHF channels and a substitute UHF channel could be provided for Toledo, which would help the educators there, who otherwise face the unhappy prospect of having the only UHF assignment in that city.

On any basis, therefore, the assignment of a VHF to Detroit for educational purposes is warranted and clearly in the public interest.

3. *Fort Wayne (Indiana) and Carbondale (Illinois)* (Pars. 438 and 518 of the Sixth Report)

Indiana Technical College has requested the assignment and reservation of VHF 5 in Fort Wayne for immediate educational operation. Southern Illinois University has requested the assignment and reservation of VHF 10 in Carbondale to permit its early initiation of educational-TV operations. Both require a VHF channel for additional, substantial reasons: Indiana Technical College, in order to make use of TV equipment (valued at more than $100,000) donated to it, some of which is usable only in the lower portion of the VHF; Southern Illinois University, in order to bring a needed first VHF service to more than 370,000 people in the southern one-third of the state, a number considerably greater than that which could be reached by a UHF operation. The Commission has denied both requests on the basis that each violated minimum mileage separations established herein and, in addition, has denied the further request of Indiana Technical College for an assignment to be limited to low-power operations in order to prevent objectionable interference.[33]

The Commission's denial of these requested VHF assignments has resulted in the loss, for the time being, of particularly valuable educational licensees who could otherwise have begun early operations. Here, too, a UHF assignment may cause substantial delay and make speculative the time when these schools will enter the medium on a full-scale basis. Here then are particularly glaring examples of what has resulted from the Commission's mistake in not recognizing education as a separate and distinct service, its omission of a high-ranking educational priority in the allocations, and its failure to construct an allocations plan and a Table of Assignments reasonably designed to meet these major needs in educational television. These faults are responsible for the absence of educational VHF assignments in Fort Wayne and Carbondale and I believe the Table of Assignments to be in error in not providing them. Had proper principles been established in this proceeding, these assignments would have been granted as being in strict conformity with them, rather than, as they have been forced to appear here, counterproposals seeking operations in violation of these general principles provided herein.

X

The Commission, in making an allocations plan, is forced to act in an area filled with imponderables and unknowns. It ventures into the future without assurance or expectation of absolute certainty. It is only reasonable to assume, therefore, that some misjudgments and errors will be made in the balancing and the determination of the many conflicting factors involved, all of which are subject to future change. If the Commission must err, however, it should take care to do so on the side of the public interest.

Elsewhere in this Report the Commission refers often to the "safety factor" requiring particular attention on its part not to unduly circumscribe future developments. Nowhere is such margin for error more necessary than here in the case of educational reservations where a denial is, for all practical purposes, permanent and irremediable. It would be far better therefore, since it must choose an alternative, for the Commission to reserve too many channels than for it to reserve too few. It is the latter alternative which involves the cost too great to hazard.

XI

Education in a democracy is not a luxury; it is an imperative. The strengthening and expansion of our educational system is a most urgent requirement of our national policy. Nothing that could be done to improve that educational system, however, can approach the force and impact of television.

Educational use of television on an extensive scale is not an impractical dream or a noble hope; rather it stands on the threshold of realization. Given sufficient recognition and encouragement, its substantial fulfillment could be achieved in the relatively near future. For those reasons, and in order to keep faith with its statutory responsibilities, the Commission should provide maximum reservations to preserve in full this once-in-a-lifetime chance for both television and education. I deeply regret that this has not been done in these proceedings.

The channels for education provided herein, however incomplete, do offer an opportunity which the American people should seize upon as soon as possible and which they cannot afford to let slip away by default. They offer, too, a challenge that must be accepted and met by every school, every teacher, parent, public official, technician and public-spirited person and organization in each community or concerned with each community herein affected. This priceless opportunity for public welfare is one that must carefully be guided and guarded by all in order to achieve the maximum benefits of which it is capable. Without doubt, there are sizeable obstacles, not the least of which is the opposition of selfish interests, that must be overcome before educational stations in large numbers are built and put into operation. In view, however, of the enormous public benefits offered by educational-TV, and its steadily growing support, I firmly believe that with earnest efforts on all our parts these obstacles will be overcome and that educational television will prevail and grow and, in time, exceeding our greatest expectations, will flourish as an integral part of our educational and broadcasting systems.

DISSENTING OPINION OF COMMISSIONER JONES

I

Even the detail in the Commission's decision released today cannot conceal those faults which compel my dissent.

I dissent because this firm, fixed and final allocation plan pretends to keep the large city broadcasters from squatting on the best television channels to the exclusion of the small city. Actually if you attribute all the selfishness charged against them in the Commission's decision, broadcasters could have done little more *on an application basis*, without an *allocation plan*, to carve out an advantage to the detriment of the smaller cities.

The general rules and standards and to a greater extent the city-to-city allocation plan actually exclude VHF channels from the smaller cities unless there happens to be no larger city within artillery range to put them in. This is justified on the basis that VHF covers wider areas than UHF and that the larger cities can serve the rural population. So the general standards are drafted to the advantage of the largest cities to accomplish this basic purpose with VHF channels.

This policy literally shrinks the 12 VHF channels of the spectrum (all of the VHF channels) to the equivalent of 4 in the northeastern part of the United States and other areas like it. This occurs because the bigger you make any single

[30] In every instance herein the educators have filed complete and lengthy affidavits, including the engineering data necessary to accomplish the requested shifts.

[31] It should be noted that under the principles established in the Third Notice, a VHF reservation would have been provided for Columbus had its three VHF assignments not already been in actual operation. This is also true in the case of Detroit; hereinafter discussed.

[32] These requests, it should be noted, would also bring first VHF reservations to Ohio and Michigan, and would correct to some extent the inequitable situation that now finds these States among those without any reservation in the VHF.

[33] There is substantial merit, in my opinion, to Indiana Technical College's assertion that the Commission should permit such educational low-power operations on the basis that non-commercial stations, unlike commercial stations, will not produce or respond to economic pressures constantly seeking higher power to expand service areas and acquire greater audiences. There are, however, as above shown, more fundamental grounds upon which the Commission should have granted the requested VHF assignments to these cities.

station's coverage the wider you have to space stations. The wider you space stations the lesser number of times you can use the channel in the entire country.

The Commission has pretended that these high powers, antenna heights and wider VHF spacings actually give more service to the rural areas. In fact, the contrary is true. In northeastern United States and other areas like it *148% more rural and city* area could get a Grade A service and 59% more could get Grade B service if the 250 mile median spacing (between stations operating on the same channel) is cut in half when 500' antennas are used, and cut one-third when 1000' antennas are used.

The Commission has made 100 kw maximum power for VHF channels 2 to 6 and 316 kw for VHF channels 7 to 13 (roughly 3 times the low band VHF power) and 1000 kw (10 times low band VHF power) for UHF channels 14 to 83. It has made 2000' antenna heights the maximum except in Zone I (northeastern United States) where 1000' is maximum. These are the values which have to be used by broadcasters everywhere (from New York City to Goldfield, Nevada—population 336) to make the Commission's plan *even approach degraded efficiency. This means that there is a million dollar entry fee* for every broadcaster to guarantee the Commission plan's efficiency. If broadcasters from small towns (VHF was given to the largest cities and UHF generally to the smaller cities to fill in the gaps not covered by VHF) are to contribute to efficency they had better study astronomy to figure up their balance sheets and buy lots of red ink.

This plan throws the heaviest financial burden upon those least able to pay. UHF transmitters cost more to construct and operate. UHF receivers cost more. Initially they will not be as good as VHF receivers and more complicated and more expensive receiving antennas are needed to pick up a useable UHF signal on every farmer's house top or wind mill. In addition, the higher the farmer and small urban resident has to construct his UHF receiving antenna, the longer the line is to his receiving set and the greater is the line loss by the time the available UHF signal reaches the terminals of his receiver.

If a UHF station doesn't happen to be built in a small city which is supposed to fill in the area not covered by the large city VHF station, the rural and small urban resident has to buy an expensive VHF antenna array to get the distant VHF signal or buy a hunting license.

The Commission's plan will make the television broadcasting business a million dollar blue chip game as a result of the powers and antenna heights chosen for *its level of efficiency*. The corollary of this philosophy is that those powers and antenna heights require abnormally, if not unreasonably wide separations. The wider the VHF separations are the less channels there are in any given city. In short, it is creating an artificial *scarcity* of VHF channels. The Commission thinks that it has eliminated 307(b) contest between cities (it has not eliminated all) by incorporating this firm, fixed and final allocation plan into its Rules. But it has created a bigger Frankenstein with this artificial scarcity of channels than it is trying to avoid. Where the prospect of million dollar returns are at stake in major markets *more applicants* will be seeking a scarce number of channels. When *many* applicants compete for an unconscionably few VHF channels with the lucrative return on investment provided by this plan (inordinately VHF service areas) it will take years before the Commission can judge the merits on the kind of contests that will surely ensue.

The Commission has had the paralysis of analysis for one year, not consumed in drafting the general Rules and Standards, but consumed in a search for a city-to-city allocation plan which it can freeze on the country by rule-making proceedings. During this period people have been denied all television service in many parts of the United States and have been limited to one service in others. In addition, the Commission has created or continued television broadcast *monopolies* in one-station cities and *limited monopolies* in some two- and three-station major cities of the nation. The mischievous damage that has been done by delaying the commercialization of UHF (83% of the channels to be used for television broadcasting) is hard to contemplate. 90% of the contests in the city-to-city proceedings involved only VHF channels.

Even now the UHF portion of the allocation Table is incomplete. Its introduction has been delayed because the Commission apparently anticipated, until lately, that it would *lump* UHF and VHF channels in the same *application* proceedings for any city and thus could not release UHF channels for television broadcasting until it perfected the VHF assignments.

Now, sound UHF station commercialization is handicapped economically and technically by 17,000,000 VHF-only receiving sets. Any prospective UHF broadcaster is not only handicapped where UHF and VHF are intermixed but also in areas where UHF is not used to supplement the inefficient assignment of VHF channels.

Especially is this true because the UHF broadcaster cannot produce a better picture than a VHF broadcaster—the standards (lines, frames and fields) are identical. In addition a UHF broadcaster in the large intermixed (UHF-VHF) cities would have to be assured of 170 mile spacings *(and they are not in this plan)* for VHF stations operating at 100 kw power for low band VHF (channels 2 to 6) and 316 kw for high band VHF (channels 7 to 13) at 500' antenna height to serve the same area with a UHF station at 1,000 and 600 kw more power for high band VHF and *1500 ft. higher* antenna heights for both, he still has to buy an audience of VHF-only receivers.

The Communications Act gives the Commission the duty of fostering the fullest development of the art. It is not the function of the Commission to construct and operate stations. Its function is to promulgate Rules and Regulations that will make it possible for citizens of the United States to become licensees and operate broadcast and television stations in the public interest, convenience and necessity. The *purpose* of the allocation plan now being adopted by the Commission is to create a nation-wide, competitive television system, but the *effect* of the plan is to deny local television to cities not included in the Table. Once the Table is established and construction permits are granted, followed by licenses and operation on the channels assigned in this Table, the Commission will not be able to dislocate such licenses to make another plan more efficient without litigation ensuing between such licensees and the Commission.

II

I dissent because the firm, fixed and final allocation plan constitutes an inefficient use of our valuable spectrum space. Therefore it is fundamentally a plan to deny local television channels to cities and communities in the United States. Only 1274 of such cities are given the privilege to build one or more television stations. Of these 889 are each given the privilege to build *only* one local station, notwithstanding the fact that the touchstone of the Communications Act is competition. *Federal Communications Commission* v. *Sanders Bros. Radio Station*, 309 U.S. 470.

The city-to-city allocation plan is confined to 1,274 cities because the Commission has established a standard service area which will meet the demands of the largest city in the nation and has applied it for allocation purposes to the smallest city included in the table.[1] In addition, for assignment purposes the Commission has assumed that every station occupying any channel assigned in the Table will employ the maximum power and antenna height regardless of the relative populations of the cities or the sizes of their respective trading areas and the areas of their cultural influence.

An examination of the various cities in the Table shows that it is unreasonable to expect that maximum power and antenna heights will be utilized in the smallest communities included in the Table. For example, New York City has a population of 7,891,957 and its trading area is 3924 square miles. Goldfield, Nevada, the smallest city included in the Table, has a population of 336, which is .0043% that of New York. Esmeralda, the county in which it is located, has a population of 614. The broadcast industry, of course, is based upon the advertising sponsorship of programs, and the advertiser selects the stations he wishes to use according to the potential number of people to be served, and the rate paid is based upon the number of people in the service area of each station. For instance, one New York station covers a population of 14,332,829 under the present Rules and Standards of the Commission. Using the same standard for Goldfield, a 50 mile radius normalized to the county lines contains a population of 3715. The rate for the Class A hour of this New York station is $3750, making the cost to the advertiser twenty-six cents per thousand. If we apply this cost per thousand to the Goldfield area, its Class A hour rate would come to ninety-seven cents. Obviously, the rate of a Goldfield station would not be figured precisely on these population percentages, but any hourly rate they could negotiate would not be enough more to change the situation materially. Therefore, it seems very clear from an examination of the largest and the smallest communities where VHF channels are assigned in the Commission's allocation plan that the chance for a financially sound broadcast station at maximum powers and antenna heights cannot be based upon a gross income of ninety-seven cents an hour for Class A service. The probability that any such station would ever be operated at maximum power is very remote. It is more logical and consonant with practical business facts to assume that if the Goldfield channel is ever occupied it will be operated at the minimum powers and antenna heights provided in the allocation plan. It cannot be argued that the comparison between the city with the largest population and the one with the smallest population included in the Table is unfair because that is the very basis upon which the Commission has constructed the allocation Table. The same factors are ignored by the Commission in constructing its Table of assignments in all the varying sizes of cities included and excluded from the Table. It provided itself with no flexibility from an allocation standpoint to change separations, powers and antenna heights which would meet the reasonable needs—give service to the natural trading areas or the areas of their cultural influence—of any given city in the United States.

The entire philosophy of providing the standard service area for all cities based upon a service area satisfactory to the largest city in the Table exposes some absurd results. For example, the Commission concluded that "the geographical distribution of people and cities of the United States does not lend itself to a simple rule for spacing of stations" which will protect the interference free service area of each channel. Yet the Commission has adopted just such a simple rule that it condemns as the sole criteria for assignment of channels and refusal to assign channels to cities throughout the nation.

Zone I is described as "one large contiguous area where there is a substantially higher density of population and concentration of cities." Zone II is described as an area which has a low population density "or where large cities are more widely separated." The Commission says that 180 mile VHF co-channel separations were not intended to be minimum co-channel spacings throughout the country and that 190 miles is the appropriate minimum spacing for Zone I because "if we were to permit stations at close separations in such areas, we would deprive persons residing in the interference areas between such stations of television service." The Commission says that a different situation exists in Zone I "where there is a substantially higher density of population and concentration of cities" and that *"lower minimum spacings in such an area will not have the tendency of depriving* residents of the area

[1] Minimum separations of 170 miles and 1000 foot antenna heights in Zone I make this standard service area slightly smaller than the standard service area for cities and communities in Zone II.

of television service, since there would be no overlapping of service contours and a multiplicity of alternative services." The simple rule that the Commission applies to these two zones makes the enormous difference of 4 to 6 miles in Grade B service radius between the two zones. Four to 6 miles increase in Grade B service radii doesn't make much sense in serving the outlying areas from a relatively few large cities in Zone II. Neither does a contraction of 4 to 6 miles in service radii with 20 mile closer co-channel spacing make much sense in Zone I. Since the results of the 20 mile differential in minimum co-channel spacings between Zones I and II have no effective or practical relationship to the objectives which the Commission espouses, it seems clear that *they* are only a convenient "simple rule" to limit local television facilities to the 1,274 cities included in the Table.

This is true unless the Commission has another basis to defend these minimum co-channel spacings. The major contention might be that engineering factors dictate the national policy of minimum spacings selected by the Commission for each zone in order to get efficient use of the spectrum assigned to television, even though the Commission has never said that this firm, fixed and final allocation plan does make efficient use of the spectrum.

In its Memorandum Opinion of July 13, 1951 (FCC 51-709) it avoided any defense of *this* plan. Likewise, in this Report it avoids a forthright avowal that *this* plan makes optimum use of the channels. Instead, it couches all its discussion of "A Table of Assignments" in the abstract, that "an engineered table * * * permits a substantially more efficient use of the available spectrum" or that "an Assignment Table drawn up upon an examination of the country as a whole *can confidently be expected* to more closely approximate the mathematical optimum * * *.". The Commission even biases its recognition that "the maximum number of stations which can be accommodated on any given channel" can be calculated mathematically with the hedge "once a fixed station separation has been agreed upon." As a matter of fact, this dodge of mileage separations is the Achilles heel to this allocation plan's efficiency. The arbitrary mileage separations of 155 miles and 170 miles for co-channel UHF and VHF stations, respectively, in Zone I, and 175 and 190 miles, respectively, in Zone II, are not based upon engineering principles at all. These separations are based upon a policy decision of the Commission for specific size service areas for television stations. All of the engineering for this plan is subordinate to and complementary to this *non-engineering policy decision*. Therefore the arbitrary minimum co-channel separations of 170, 190 and 220 miles for VHF and 155, 175, 205 miles for UHF, respectively, have no sacrosanct engineering basis related *either* to optimum use of a single channel *or* efficient use of the spectrum—all of the channels.

Fortunately, there is a mathematical and engineering basis for selecting co-channel mileage separations for any given channel in each group, i.e., VHF channels 2 to 6 (low VHF), VHF channels 7 to 13 (high VHF) and UHF channels 14 to 83. To visualize the problem of achieving maximum use of a given channel so we can calculate its maximum use, it is necessary to think of a series of dots spaced an equal distance from each other on a map of the United States. If we draw lines between the dots we will have a series of equilateral triangles overlaying the entire United States. The dots will represent assignments of a single channel. The length of the sides of each equilateral triangle will be the mileage separation between stations. Such a scheme of assigning channels will be referred to hereinafter as a "full triangular lattice." Appendices 1 through 6 are a series of charts based upon a "full triangular lattice" of a single channel in each portion of the spectrum. Appendices 1 and 2 for 63 megacycles are valid for channels 2 to 6 (low VHF) utilizing 10 kilowatts, 100 kilowatts and infinite kilowatts of power at antenna heights of 500 feet and 1000 feet, respectively. Appendices 3 and 4 for 195 megacycles are valid for channels 7 to 13 (high VHF) utilizing 31.6 kilowatts, 316 kilowatts and infinite kilowatts of power at 500 feet and 1000 feet, respectively. Appendices 5 and 6 for 500 megacycles are valid for UHF channels 14 to 83 utilizing 100 kilowatts, 1000 kilowatts and infinite kilowatts of power at 500 feet and 1000 feet, respectively.[2] These appendices, all based on the record in this proceeding, show that the minimum spacing proposed in the Third Notice, as amended and finalized in this Sixth Report and Order, is too great to produce the maximum service on any given channel in any group: low VHF, high VHF or UHF.

Appendix 1 shows that any one of the low VHF channels, 2 to 6, utilizing 100 kilowatts of power at 500 feet antenna height obtains maximum efficiency of area coverage at 140 miles co-channel separation instead of the 170 miles minimum separation finalized in this Report.[3] It is significant that any one of this group of channels is as efficient in area coverage utilizing 10 kilowatts of power at 500 feet antenna height when co-channel spacing is 100 miles as it is utilizing 100 kilowatts of power at the same antenna height when minimum co-channel spacing is 170 miles.

This appendix further shows that *at all co-channel spacings between 100 and 140 miles*, every one of these channels is more efficient in channel coverage utilizing 10 kilowatts of power at 500 feet than it is utilizing 100 kilowatts at the minimum spacing of 170 miles.[3] Appendix 1 also shows that if we utilized powers of infinity[4] at 500 feet antenna heights the maximum coverage for any one of this group of channels would still be at 140 miles co-channel separation instead of the minimum finalized in the Sixth Report.

Appendix 2 shows that the maximum coverage for any one of this group of channels is obtained at co-channel spacings of 155 miles when 100 kilowatts of power is utilized at 1000 foot antenna heights. It also shows that the efficiency is as great at 145 miles co-channel spacing as at the 170 miles[3] minimum finalized in the Sixth Report and Order. It further shows that if *powers of infinity* were utilized at 1000 feet antenna heights the maximum coverage would be as efficient at 137 mile co-channel spacing as it is at 155 miles utilizing the *maximum power authorized in the Sixth Report and Order*. It is significant that if 10 kilowatts of power is utilized at the same antenna height, the maximum coverage would be obtained at 145 miles and is equally as efficient at 140 miles as at 150 miles.

Appendix 3 shows that any one of the group of VHF channels 7 to 13 utilizing 316 kilowatts of power at 500 foot antenna height obtains maximum efficiency of area coverage at 135 miles co-channel separation instead of 170 miles minimum separation finalized in this Report. It shows that any one of this group of channels is as efficient in area coverage utilizing 31.6 kilowatts of power at 500 foot antenna heights when co-channel spacing is 110 miles as it is when 316 kilowatts of power at the same height is utilized with the minimum co-channel spacing of 170 miles.[3] If the maximum power is utilized at the same height for any one of this group of channels they are equally efficient at 90 and 170 miles co-channel spacing.

Appendix 4 shows the efficiency of any channel in the same group utilizing the same designated powers at 1000 foot antenna heights. The maximum channel efficiency at this height utilizing maximum power of 316 kw occurs at 155 miles co-channel spacing; and it is equally as efficient at 130 miles as at the minimum of 170 miles[3] co-channel spacing provided for in the Sixth Report and Order. The maximum efficiency of one of this group of channels utilizing 31.6 kilowatts occurs equally from 140 to 150 miles spacing. If infinite power is utilized the maximum efficiency is at the co-channel spacing of 155 miles.

Appendices 5 and 6 show that the channel efficiency of each of the UHF channels is less sensitive to station spacing than either VHF channels 2 to 6 or 7 to 13. Appendix 5 shows that using 1000 kilowatts of power the maximum efficiency of a UHF channel occurs at 115 miles instead of 155 miles as finalized in the Sixth Report. This is the only group whose channels each increase in efficiency from 100 to 265 miles co-channel spacing utilizing antenna heights of 500 feet and infinite power. When 100 kilowatts at 500 feet are used the maximum efficiency of a UHF channel occurs at 100 miles co-channel spacing.

Appendix 6 shows that a UHF channel utilizing 1000 kilowatts at 1000 feet antenna height reaches its maximum efficiency at 130 miles co-channel spacing; utilizing infinite power at the same height it approaches a flat curve of maximum efficiency at around 250 miles co-channel spacing. When 100 kilowatts is used at the same height the maximum efficiency decreases at all distances beyond 100 miles co-channel spacing.

These appendices show that the Commission has not selected minimum co-channel spacings in its general rules and standards that obtain maximum coverage efficiency of Zone I if *any power* is utilized at 500 feet and 1000 feet antenna heights. This inefficient minimum spacing holds true for large areas in Zone II which have the same population and concentration of city characteristics as Zone I as will be more fully discussed in connection with the actual assignments employed in the Table of Assignments hereafter. While the Commission represents that it *can be confidently expected* that an assignment Table drawn upon the examination of the country as a whole will more closely approximate the mathematical optimum, the minimum spacings in the general rules and standards certainly ignore principles involved in obtaining that mathematical optimum. The VHF assignments actually employed in the Table of Assignments are even less efficient mathematically in Zone I particularly and in the parts of Zone II indicated. The UHF assignments are admittedly incomplete and a sample statistical analysis cannot be made; but such a complete analysis can be made of the VHF assignments. Appendices 7 through 18 are maps of all VHF assignments in the Table of Assignments. They are revealing, if not shocking, in their lack of adherence to the minimum spacings proposed in any zone. They are offensive, if not arbitrary and capricious, because the Commission will not permit a change in the Table until enough construction permits are granted to freeze this inefficient firm, fixed and final allocation plan forever.

Now let us examine the actual co-channel spacings employed in this firm, fixed and final allocation plan for VHF channels.

Appendices 19 and 20 are analyses of VHF assignments, as shown on the assignment maps, (Appendices 7 through 18). Appendix 19 shows that the median co-channel separation is 280 miles for all VHF channels assigned to cities throughout the nation. Appendix 20 shows that in Zone I the median co-channel separation is 250 miles for channels 2 through 6. There is no reason to believe that the separations employed in channels 2 through 6 are different than channels 7 through 13 in Zone I. If any section of the country is picked other than Zone I it is likely that the median co-channel separation will be within 20 miles of the 280 mile median for the entire nation.

Approximately ¾ of 1% of all VHF assignments are less than 175 miles. In Zone I only 4% of station separations are 170 miles or less and only 8% are 180 miles or less. In the entire country only 7% of all the co-channel separations are 195 miles or less.

It is apparent that the Commission has constructed this Table of Assignments without regard to the minimum co-channel spacings of 170 miles in Zone I, 190 miles in Zone II and 220 miles in Zone III for all VHF channels. It is also quite apparent that in selecting these minimum co-channel spacings the Commission has not had

[2] Each of these appendices is based upon the record in those proceedings.

[3] The minimum spacings for Zone I are are used because the minimum of 190 and 220 for Zones II and III respectively are less efficient yet for feasible antenna heights over most of these Zones.

[4] Infinite power cannot be achieved. For the purpose of this dissent the term means powers elevated as high as are practically obtaintable.

the efficient use of each of the VHF channels or the efficient use of the VHF portion of the spectrum devoted to television as its major objective. For example, appendices 1 to 4, inclusive, show the appropriate co-channel spacings to obtain the maximum efficiency of all VHF channels when maximum powers are utilized at all feasible antenna heights. Appendices 1 and 4, of course, are based upon an assignment of channels on a full triangular lattice basis. These appendices are the efficiency charts for optimum use of the VHF portion of the spectrum. It is fair to use these efficiency charts as a basis for comparison of efficiency employed in constructing the actual Table of Assignments for each of the channels because the separations actually used form a lattice work of co-channel stations at the distances indicated in the maps for each one of the VHF channels. Appendices 7 through 18 have had lines drawn through each co-channel assignment of each single VHF channel and the figures associated with each line show the distances to all co-channel stations in every direction. An examination of these maps shows that they form triangular lattices reaching all the way from 550 to 165 miles. Insofar as any one of these separations is expanded from the most efficient co-channel spacings, they are a degradation of the efficient use of the VHF spectrum. This is true because the geometric triangles formed by the actual assignments employed in the Table are just a variation from the theoretical equilateral triangles in the full lattice. Appendices 1 to 4 show the percentages of channel efficiency which will be obtained with optimum co-channel spacing on the low VHF (channels 2 to 6) and the high VHF (channels 7 to 13). Since the maps (appendices 7 to 18) and co-channel distribution curve (appendices 19 and 20) show that the median co-channel spacing is much greater than the optimum for channel efficiency (250 for Zone I; 280 for the entire country), it must be concluded that the channel efficiency is materially degraded. The following table shows the amount of this degradation:

ZONE I

	63 mc	500′	100 kw	63 mc	1000′	100 kw
Separation in Miles	140	170	250	155	170	250
Efficiency of Coverage	23%	21%	14%	28%	28%	22%
	195 mc	**500′**	**316 kw**	**195 mc**	**1000′**	**316 kw**
Separation in miles	135	170	250	153	170	250
Efficiency of Coverage	28%	27%	14%	35%	28%	21%

ZONE II

	63 mc	500′	100 kw	63 mc	1000′	100 kw
Separation in miles	140	190	280	155	190	280
Efficiency of Coverage	23%	18%	13%	28%	28%	18%
	195 mc	**500′**	**316 kw**	**195 mc**	**1000′**	**316 kw**
Separation in Miles	135	190	280	153	190	280
Efficiency of Coverage	28%	22.5%	13%	35%	31%	15%

This Table and Appendices 1 to 4 show that the minimum co-channel spacing of 170 miles for VHF channels in Zone I does not permit maximum efficiency for any VHF channel when maximum power is utilized at any feasible antenna height, that co-channel spacings should be a little larger for higher antenna heights when higher powers are utilized in order to gain maximum efficiency on any VHF channel, and that more channel efficiency is gained by increasing antenna heights from 500 to 1000 feet than by increasing transmitter power by tenfold.

They show further that channel efficiency is cut about one-half with 500 feet antennas and one-third with 1000 foot antennas when the spacings are increased from 135 or 140 miles to 250 miles.

This table further shows for the median spacing for Zone I of 250 miles on 63 mc at 1000 feet and 100 kw, the channel efficiency is reduced from 28% to 22%, a reduction of 25%. For 195 mc, at 1000 feet, 316 kw, channel efficiency is reduced from 35% to 21%, a reduction of 40%. For those parts of Zone II which have a median co-channel spacing of 280 miles, the channel efficiency for 63 mc at 1000 feet and 100 kw is reduced from 28% to 18%, a reduction of 36%. For 195 mc at 1000 feet and 316 kw, from 35% to 15%, a reduction of 72%. This is significant because there are substantial areas in Zone II in which the high density population and concentrated city characteristics are the same as in Zone I.

On the other hand, if the maximum station efficiency—*the largest coverage* for any single station given a VHF assignment—is the goal of this allocation Table, the minimum co-channel spacings chosen (and these are too large for optimum co-channel efficiency) are at war with this goal because *maximum channel efficiency will not permit maximum station efficiency.* The spacings which give maximum single station coverage are approximately twice as great as are necessary to give maximum channel efficiency.

The Commission pretends to follow a different policy in Zone I and in Zone II. It says Zone II is an area which has a "relatively lower population density or where large cities are more widely separated" and therefore wider separations are justified. In Zone I it says that the concentration of cities in wide areas of contiguous high density population justifies lower co-channel spacings. In fact, the spacings actually employed in the Table tend to protect the Grade B contour without any interference in both Zones I and II. The Commission said that in Zone I it was not concerned with interference to the Grade B contour because "there would be an overlapping of service contours of stations on different channels located in the interference areas." They have, however, protected the B contour in this zone to the same degree substantially that they did in Zone II, notwithstanding this statement of policy.

The spacings actually employed in constructing the Table for Zone I are large and incomplete lattices which result in less rural area coverage than if smaller and more complete lattices (more nearly a full lattice at optimum spacing) had been used. The smaller lattices would result in optimum city and rural coverage on any individual channel or on all channels collectively.

The engineering evidence in the record or that which can be computed by the Commission upon the basis of such evidence in the record, shows that more coverage is obtained on any channel by closer spacing than wide spacing. Specifically, it shows that for each VHF channel in each group the coverage efficiency is higher with 1000′ antennas and 10 kw power for low VHF, and at 31.6 kw power for high VHF, at spacings of 145 miles and 153 miles, respectively, rather than at 250 miles spacing, the median spacing actually used in Zone I. And even if maximum powers of 100 kw on low VHF and 316 kw on high VHF at 1000′ are used, the optimum co-channel spacing only increases approximately 10 miles for 63 mc (from 145 to 155 miles) and for 195 mc (from 153 to 155 miles). Therefore, the above enumerated engineering principles still apply for these powers. So when the Commission says that it is using wide spacings to take advantage of the wide coverage capabilities of the VHF to cover rural areas, it is not based upon engineering fact, unless they mean single station coverage, when applied to Zone I and sections of Zone II where the geographic, population and city characteristics are like Zone I.

The Commission may contend that the efficiency charts (Appendices 1 to 4) are based upon total service of each channel assigned and that therefore they do not apply to the assignment policy of the Commission which recognizes only Grade A and B contours. It is true that the efficiency charts are based upon the total service of a station. Let us examine what that means. The total service is defined as the sum of all locations, no matter how distant from the transmitter, which receive a signal from the desired station *for at least 90% of the time* which is at least 28 db above the 10% interfering signal from each co-channel station, not more than 6 db below the adjacent channel interfering signal, and 30 db above random noise. The standard measurement of these signals uses the F 50-50 and F 50-10 curves.

The Ad Hoc Report indicated and the Commission tacitly admits that total service of a station as hereinafter described is the most meaningful definition of television service, either for a station or a channel, because it counts every possible location that gets an acceptable signal, regardless of how far removed it is from the transmitter. But the Commission for allocation purposes does not recognize this total service—to the sum of all locations for at least 90% of the time. It just recognizes a portion of such total service provided by the F 50-50 curve. These two segments are designated Grade A and Grade B service. The Commission specifies that Grade A service has that quality acceptable to the median observer expected to be available for at least 90% of the time for the best 70% or more of the receiver locations. Grade B service is defined as service where acceptable signals are available for at least 90% of the time to 50% or better of the locations.

Appendices 2 and 4 show that with the median spacings of 28[illegible] miles used in constructing the Table only 15% of the United States would get service from one channel (316 kw-1000′-195 mc). If optimum channel spacing of 155 miles were used, 35% of that portion of Zone II which is like Zone I would get service from one channel. This is 2⅓ times as much area as would be covered by the single channel with 280 mile spacing. This means that at 280 mile spacing it takes more than 6 high VHF (channels 7 to 13) to cover the country once and at optimum spacing of 155 miles it only takes 3 of such channels if we assume in both cases that maximum power is utilized at 1000′ antenna heights. Even if we did not have an allocation plan, it is doubtful that applicants filing for the channels as they saw fit could destroy 4 of the 7 channels the way the Commission has in the allocation plan.

If it is contended by the Commission that Appendices 2 and 4 based upon the total service of a station are not indicative of what happens to Grades A and B service, used by the Commission as the criteria for allocation purposes, even from this standpoint closer spacings are more efficient. Appendices 21 and 22 show that high VHF (channels 7 to 13) utilizing 316 kw power at 1000′ and the median co-channel spacings of 250 miles in Zone I achieve only 12.3% channel efficiency of area within the Grade A type contour and 23.6% within the B type contour. They show further that under the same conditions but at 155 mile optimum co-channel spacing the area within the Grade A contour is 30.5% and the area within the B contour is 37.4%. This is a 148% increase of coverage within the Grade A contour and a 59% increase of coverage within the B contour. However, it must be remembered in the total coverage of the channel at 155 miles, efficiency of total coverage is 72% greater than at 250 miles. Of course, if you are comparing the coverage of a *single* station separated at 250 miles with a *single* station at a co-channel spacing of 155 miles, the area covered by each is 1922 square miles and 1072 miles, respectively. But it must be remembered that if you are going to make such a comparison for the 155 mile spacing you can get 2.6 as many station assignments on an area basis as you can with 250 mile spacing. The total area covered by the 2 stations is 2787 square miles. This is 860 square miles *more area coverage* by the closer spaced station on any high VHF channel. From any standpoint more complete area coverage can be had with high band VHF channels at the optimum co-channel spacing of 155 miles rather than 250 miles which the Commission has actually used in constructing the Table in Zone I.

III

It now becomes important to compare the minimum co-channel

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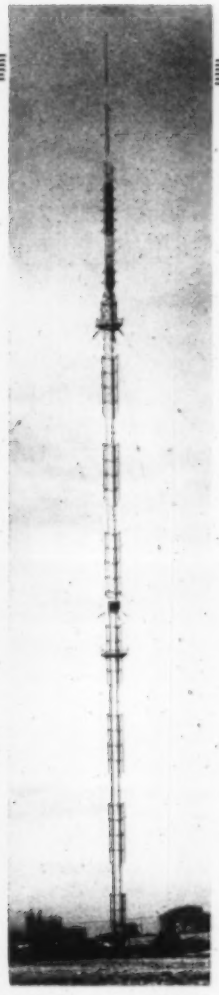
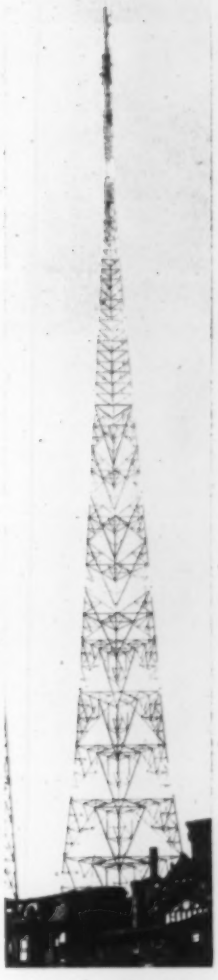


780' Guyed Tower recently completed for Station WHO in Des Moines, Ia.



709' Free-Standing Tower erected on building for Station KRNT in Des Moines, Ia.

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The rigid, triangular design of all Ideco towers minimizes distortion and is added assurance that the tower will retain its original shape through the most severe storms. Added years of trouble-free service are also assured by the fact that all structural members are hot-dip galvanized to prevent corrosion.

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Substantial savings in first cost and in maintenance costs result from the erection of IDECO towers. The triangular design requires less structural material—Erection time and costs are considerably reduced—Less material and labor time is required for foundation installation and maintenance costs are reduced.

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spacings as they affect the total single station service between the three bands—low band VHF, high band VHF and UHF. This is very important from a competitive standpoint, especially in cities where UHF and VHF are intermixed. The *minimum co-channel spacings* adopted by the Commission are such that they tend to restrict the service on any given UHF channel due to co-channel interference. It will now be shown that the *minimum co-channel spacings* adopted for the several bands unnecessarily reduce coverage of a single station on a UHF channel compared with single station coverage of a VHF channel and therefore make the UHF station noncompetitive with VHF. It will also be shown that it is necessary to modify the minimum co-channel spacing for the UHF stations to equalize the coverage efficiency with respect to the VHF stations. This is particularly compelling because the UHF is just now being introduced for commercial broadcasting and the competitive value of these channels is 17,000,000 receivers behind the VHF channels. In addition, the higher cost of original construction and operation and the unavailability of equipment for UHF stations as compared with VHF stations are handicap enough already without the minimum spacings for UHF further threatening its competitive position with a VHF station in an intermixed market. In addition, the UHF receivers actually will be more expensive and for a time less reliable than VHF from the standpoint of the prospective viewer. At the minimum spacings of 155 miles for UHF and 170 for VHF, the UHF could never become competitive from the standpoint of single station coverage efficiency using maximum powers with antenna heights from 500′ to 2000′, assuming that both groups of stations have the same antenna height. However, if a 2000′ antenna is used on UHF with a maximum power of 1000 kw and a 500′ antenna is used on low band VHF with 100 kw, UHF coverage is approximately equal to the low band VHF. Appendices 23, 24 and 25 are charts showing the distribution of locations receiving acceptable service on each of the bands utilizing maximum power and antenna heights of 500′, 1000′ and 2000′, respectively, with spacings of 170 miles for VHF and 155 for UHF. They further show that in order to have the UHF cover the same total station service based upon minimum VHF spacing, the UHF licensee would be compelled to operate with maximum power of 1000 kw at 2000′, while the low band VHF station could operate with 100 kw at 500′. Obviously when a UHF station has to spend money for a 2000′ tower utilizing 1000 kw in order to compete with a low band VHF licensee with 500′ tower at 100 kw, he has a very serious financial handicap. From an economic standpoint no encouragement is given the prospective UHF licensee to use the UHF band in an intermixed city.

Especially is this true since the UHF broadcaster does not produce any better picture than the VHF broadcaster. The UHF standards—lines, frames and fields—are identical with the VHF. It would seem incontrovertible that from an economic standpoint the Commission ought not to adopt a policy of minimum spacings which require heavy expenditure for 1500 feet additional tower height and 900 kw more power in comparison with the low band VHF to cover substantially the same number of locations in the VHF service area. As a matter of fact, in comparing the relative number of locations served by UHF stations at minimum co-channel spacings with VHF stations at spacings actually employed in constructing the Table of Assignments, UHF stations operating in the same community would cover substantially less locations (approximately 50%) than VHF stations. This is significant because the Commission has adopted a policy of minimum co-channel spacing of 170 miles for VHF channels, but the actual VHF assignments tend toward a service which is limited by noise only. It has been said that the UHF Table is incomplete; nevertheless the minimum co-channel spacing for UHF is still 155 miles. Therefore this minimum spacing for UHF is an economic threat to anyone who might invest in a 2000′ tower and equipment to generate 1000 kw radiated power in order to compete with a VHF licensee unless the minimum station spacing is at least 200 miles. What the applicant for a UHF license needs in order to be assured of competitive equality with the low band VHF, with VHF spacings actually employed in the Table (Appendices 7 to 13) would be a Table of co-channel spacings for UHF greater than 250 miles and powers considerably above 1000 kw.

Inasmuch as the Commission has assigned UHF more extensively to small communities, obviously all of our experience in broadcasting would certainly show us that licensees in such areas never will be able to make economic use of the UHF stations at maximum powers and antenna heights. In addition, insofar as UHF has been assigned as a local service to smaller communities generally, we have placed the heaviest burden upon both the broadcaster (the original construction cost and operating costs are higher for UHF than for VHF) and upon the viewer (VHF-only receiving sets will require adapters and sets capable of receiving UHF will be more expensive than for VHF). Even if a prospective UHF licensee would weigh the cost of the purchase of an existing VHF station in any one of the large multi-station markets with its high coverage efficiency assured by the actual spacings employed in the Table, versus capitalization of the cost of converting all VHF-only receivers presently in such markets, there still would be a large portion of the VHF service area he could not cover if both UHF and VHF stations operated at the same antenna heights and at the respective maximum powers. The prospective applicant for UHF facilities in a major market where VHF is already operating has two costs to capitalize: (1) the costs of his station and (2) the cost of buying an audience, i.e., UHF converters for VHF-only receivers. Even if these converters were available to him at manufacturer's cost, this expenditure for just the opportunity to get listeners in such a mixed market would probably be more than his entire UHF station. And after capitalizing this additional cost, which the VHF licensee does not have, the minimum spacings and the spacings actually employed in the Table of Assignments for VHF channels will give him only half a VHF audience.

Obviously, the Commission can relieve the situation without throwing this tremendous burden upon the prospective UHF licensee insofar as equalization of service area is concerned by widening the UHF co-channel spacings and narrowing the VHF co-channel spacings to equalize the distribution of locations receiving acceptable service from all groups of channels. This certainly should be the main objective of any allocation plan where a new band of frequencies is being introduced for commercial operation.

The Commission blows hot and cold on two sides of the same proposition. On the one hand it says that maximum rural coverage is obtained with wide spacings, and on the other hand it says if you have a large number of cities close together you can get large rural coverage by the use of many stations on different channels because "there would be an overlapping of service contours and a multiplicity of alternative services." The question unanswered by the Commission is: why did it persist in wide spacings in constructing the Zone I portion of this Table? As a matter of fact, from the standpoint of efficient channel coverage there is no answer because the actual assignments have moved toward *maximum single station efficiency* instead of *total maximum channel efficiency*. Therefore, this firm, fixed and final allocation plan *shrinks* the available 7 high band VHF channels used at the median spacings of 280 miles actually employed in constructing the Table and gives no more coverage than three of the same group of channels if 155 miles optimum spacing were employed.

If co-channel spacings of 170 miles were actually used for VHF assignments in the Table and 200 miles for UHF at maximum powers (100 kw and 316 kw for low VHF and high VHF respectively and 1000 kw for UHF) and all operate at antenna heights of 500 feet, UHF can be competitive with low band VHF. It can be competitive with low band VHF when 1000 feet antenna heights are used at the same respective spacings and powers. UHF is not only competitive with low band VHF but is also competitive with high band VHF when all operate at 2000 feet antenna heights with the same spacings and powers indicated above. Therefore, it is concluded that a 200 mile minimum co-channel spacing for UHF assignments in the Table is necessary to make UHF single station coverage competitive with VHF station coverage provided 170 mile spacings are actually adhered to for VHF channels. Appendices 23 through 28 show that the 170 mile co-channel spacings for VHF channels in Zone I and those portions of Zone II which have the same characteristics as Zone I, as heretofore indicated, should not be just a *stated policy* of the Commission for VHF channel assignments but they should *actually be employed* in constructing the Table to make UHF at 200 mile co-channel spacings competitive with VHF. These charts further confirm the fact that UHF has the potential of equalizing the station coverage of both high VHF and low VHF when all operate at 2000 feet antenna heights at the respective maximum power for each group and that UHF has better potential for wide area coverage than either of the VHF groups of channels when the UHF is spaced at 200 miles and the VHF is spaced at 170 miles or its equivalent. They show that there is a basic error in the Commission's *assumption* that *only VHF channels* have a potential for wide area coverage—assigning VHF channels to the largest cities.

Appendices 26, 27 and 28 show that you can make any one of these groups of channels (low band VHF, channels 2 to 6; high band VHF, channels 7 to 13; and UHF, channels 14 to 83) the preferred wide area coverage channels simply by employing wider spacings for the groups the Commission wishes to prefer.[5] Appendices 23 to 28, inclusive, show that if a proper co-channel spacing policy is incorporated into the general Rules and Standards of the Commission and actually followed in an assignment table, each can be made to serve the same area and the same relative number of locations in such area. This ought to be a bare *minimum objective* for a policy of intermixture of VHF and UHF channels in the same city. *Contrary to this objective*, the general Rules and Standards and this firm, fixed and final city-to-city allocation plan show every sign of trying to skirt around the natural wide area coverage potential of UHF as if the technical problems in both transmitter and receiver equipment development for UHF may never be overcome or that scientific knowledge in overcoming the present equipment difficulties is frozen at the present stage.

Obviously, the Commission's assignment plan that presumes to look ahead for forty years ought to provide a sound economic setting for licensees of each group of channels to be competitive with all others to afford each licensee a fair chance to render service to comparable service areas, with the same opportunity for fair return on his investment.

Inasmuch as the Commission has used UHF by and large for assignment to small cities and as a mere supplement to the wide area single station coverage of VHF channels located generally in the larger cities, the burden of UHF is thrown generally upon the people least able to pay if they are ever to receive a Grade A service—the rural populations. General experience would tell us that the rural populations are the least able to pay the higher price (higher cost receivers) for Grade A television service and that a prospective UHF broadcaster has less chance to recoup investment in constructing and operating a UHF station which costs more than a VHF station. These considerations are not consistent with the original basic purpose of this firm, fixed and final

[5] Provided sufficient antenna height is utilized by UHF.

allocation plan—to protect the small communities against preemption of VHF channels by large cities. The Commission should abandon the use of VHF in large cities for wide area rural coverage. Optimum spacings less than those used in the assignment Table or in the Rules and Standards give more Grade A service to the rural population than the method used by the Commission.

Appendices 1 to 6 show incontrovertibly that optimum channel efficiency can be obtained at the optimum spacings indicated below, at both minimum and maximum powers, and antenna heights of 500' to 1000', as follows:

	Antenna Height	Power	Spacing	
Low band VHF	500 feet	10 kw	125 miles	
	1000 "	10 kw	145 "	
	500 "	100 kw	135 "	
	1000 "	100 kw	155 "	
	500 "	Infinity	140 "	
	1000 "	Infinity	160 "	
High band VHF	500 "	31.6 kw	100 "	
	1000 "	31.6 kw	153 "	
	500 "	316 kw	135 "	
	1000 "	316 kw	155 "	
	500 "	Infinity	140 "	
	1000 "	Infinity	156 "	
UHF	500 "	100 kw	100 "	or less
	1000 "	100 kw	100 "	or less
	500 "	1000 kw	125 "	
	1000 "	1000 kw	130 "	
	500 "	Infinity	More than 250 miles	
	1000 "	Infinity	More than 250 miles	

The values taken from the efficiency charts (Appendices 1 to 6) and the above table are practical because we can utilize powers, heights and co-channel spacings at any values within these parameters to obtain optimum use of 82 television channels. Roughly, ten times the power is required to obtain the same expansion of coverage that can be obtained with doubling the antenna height.

Values of power, height and spacing between these parameters may be used to obtain more optimum use of all channels, VHF and UHF. It is unreasonable to use excessive powers which preclude a simulated full triangular lattice, especially in Zone I and the parts of Zone II hereinbefore indicated, which would provide maximum station coverage at the expense of optimum use of the spectrum (all television channels).

Appendices 1 to 6 show that the maximum channel efficiency as distinguished from single station efficiency is obtained regardless of powers ranging from rather nominal values of 10 kw for low band VHF, 31.6 for high band VHF and 100 kw for UHF, to the highest practical powers obtainable with co-channel spacings ranging from between 100 and 155 miles. Therefore, it would seem logical to utilize this difference in efficiency of antenna heights versus power in a manner that will fit the median size city, as a general allocation plan, and the largest city as an exceptional case. To put it graphically, use a lattice that will fit the median size city in the country and tear out the lattice for the exceptional case, i.e., Los Angeles from a standpoint of geographic considerations and Denver from the standpoint of population characteristics.

Appendix 30 illustrates the different spacings that can be used with standardized interferences to provide substantially equal service areas for cities of all sizes located at random distances from each other in order to simulate a perfect full lattice.

Appendix 31 shows how to get different sizes of service areas for different size cities to supply their respective needs—trading areas or areas of cultural influence—with different co-channel spacings using standardized interferences and different powers and antenna heights. It shows how to get that unequal service area to meet the respective needs of the smallest community and the largest community with random spacings, random powers and random antenna heights in each group of frequencies. A sample of how this table may be put into effect is shown by Appendix 30.

IV

The Commission seeks to buttress its excessive separation factor by arguing that it is necessary in view of the limited amount of propagation data now available to provide a "safety factor." The majority recognizes, however, that such a safety factor can only be justified if it is possible in the future to modify its present separations. If the separations in the Table are to be fixed, the excuse for the "safety factor" must fail. The Commission says that when more propagation data is available it will take appropriate action with respect to modifying its Table — presumably assigning channels at closer spacings. This seems a plausible solution on the surface. However, the Commission completely destroys any hope that more assignments will be made in the VHF portion of the spectrum by its admission in footnote 25 that it has not been able to remove existing operations which do not comply with its minimum separations because "it has not been possible to remove these cases without unwarranted dislocation." At present there are only 108 stations on the air in 64 markets. Obviously any attempt at adjustments after more stations get on the air would involve more unwarranted dislocations which would preclude the Commission from adding more assignments. Since each additional station put on the air would increase the problem of dislocation involved in any attempt to modify the spacings adopted now, it is apparent that the Commission's "safety factor" is simply an increase in mileage separations arbitrarily imposed without any propagation data to support it in the VHF. In the UHF where propagation data by contrast is almost nonexistent, they have failed to put in a safety factor in the general rules for co-channel spacing of UHF stations. Since the information on UHF propagation is admittedly so meager, the Commission is much more harsh with UHF spacings than they are with VHF. Either the Commission does not need a "safety factor" in the VHF or it is very reckless with the UHF, since the UHF propagation data that is available shows that interference is higher on the UHF than it is in the VHF on any comparable distance in miles from the transmitter. As a matter of fact, a minimum of 183 miles is required in the UHF to protect the Grade A service area of UHF stations. No place in the minimum spacing in the general rules and regulations have they impinged upon VHF Grade A service. In short, the Commission provides a "safety factor" where the information indicates it is not needed (in the VHF) and they don't provide it in the UHF band where the information is so meager it might be advisable. This is an admission that the Commission means to make local (small coverage) service out of UHF channels even when assigned to the largest markets regardless of its future potential for wide area coverage, or that it has a double standard in applying the "safety factor." Obviously the "safety factor" is a snare and a delusion.

The whole theory of a safety factor in minimum co-channel spacings is based upon administrative convenience rather than any sacrosanct value that may be attached to the minimum co-channel spacings adopted in the Commission's decision today, at least within the parameters of the engineering evidence shown by the efficiency charts, Appendices 1 to 6, for the powers, antenna heights and separations indicated.

The whole idea that engineering considerations dictate the respective minimum co-channel spacings for each zone stems from two inconsistent ideas expressed in the Third Notice, Appendix A, paragraph C4a, wherein the statement is made predicting service areas and interference: "The Commission is satisfied that on the basis of the data presently available to it the data underlying the propagation charts are sufficient to afford an adequate statistical basis for describing the field intensities under average conditions, but it is expected that there may be substantial variations in individual areas." On the other hand, in the same document, Appendix A, paragraph E1, under the subject of station separations, co-channel separations, the statement is made: "In the second place, much of the propagation data —although the best available * * * upon which the Commission relies is quite meager * * * until sufficient propagation data are available."

From these two statements the Commission acquires the philosophy that the tropospheric information it has is good enough for a national allocation plan but insufficient for *particular assignments* in specific cities. From an engineering standpoint there is absolutely no basis in fact to pretend that there is a difference in troposphere effects between stations where the co-channel spacings are reduced, the antenna heights raised to obtain greater efficiency in coverage and the power lowered to equalize the minimum co-channel spacings adopted in the Sixth Report and Order.

The Sixth Report and Order gives the implicit impression that engineering has dictated this unique plan—the inordinately wide spacings actually used in constructing the Table. *It should be clearly pointed out that engineering factors do not determine a unique allocation.* Thousands of different plans could be drawn up which were correct engineering-wise, changing the minimum co-channel mileage separations for each group of channels within the parameters of power and antenna heights that Appendices 1 to 6 recommend. Therefore there is wide latitude from an engineering standpoint for thousands of different plans. The engineering only places limitations on what can be done. The Commission has relied upon the simple rule of minimum co-channel spacings (even though it admits that a simple rule cannot be utilized) and for administrative convenience wants to throw away all of the engineering factors upon which all the minimum co-channel calculations for the plans are based. For instance, all of the Grade A and B service areas at all powers and antenna heights used in constructing the Commission's general rules and regulations and in its city-to-city allocation plan are based upon the simple formula that the desired station for at least 90% of the time produces a signal at the edge of its Grade B contour at least 28 db above the 10% interfering signal from each co-channel station, not more than 6 db below the adjacent channel interfering signal and 30 db above random noise. The standard measurement of these signals is the F 50-50 and the F 50-10 curves. Tables for the F 50-50 curve at 10 mile intervals from the transmitter show the field intensity of a 1 kw transmitter in db for antenna heights at 500, 1000 and 2000 feet. The F 50-50 is Appendix 32. The interfering signal field intensity of a 1 kw transmitter in db for the F 50-10 curve at distances for every 10 miles from 70 miles to 300 miles are shown in Appendix 33. Any layman can calculate the rate of decline of signal strength for the desired station from Appendix 32 between any 10-mile separation and the rate of decline in the interfering signal with Appendix 33 at every 10-mile spacing and be able to add the appropriate number of db's for kilowatts of power contemplated to the values in this Table for both the desired and undesired station to predict the desired station's service area by jockeying antenna heights up and power down until the efficiency of antenna heights over radiated power brings the desired result. In this manner he can *either equalize* the approximate service area maintained by the minimum co-channel spacings adopted by the Commission or obtain a service area which will satisfy the community to be served and at the same time make more optimum use of the channel. There is no secret or trick in maintaining the ratios by this simple device and give the same safety factor from the standpoint of tropospheric interference as is given by the Commission with its minimum co-channel spacings adopted in this decision. The Commission on the other hand would leave an area without a channel assignment even if it is just one or six miles under the minimum spacing, rather than make the channel coverage (optimum spectrum use) more efficient. Cf. Coldwater, Michigan, and Pittsburgh, Pa., in the city-to-city portion of the Commission's decision. Again the Commission's false "safety factor" philosophy prejudices those least able to pay in favor of the great metropolitan populations. It would rather space stations so far that their

service is limited by noise, *a 100% of the time interference factor* for the rural and small urban resident, by throwing emphasis to the importance of *a 10% of the time co-channel interference factor.* The rural resident can't get a signal in the noise zone with a hunting license because there isn't any signal but the metropolitan area resident in the interference zone can get a usable signal by orientation of a relatively inexpensive antenna installation (compared to the listener miles away from the transmitter) to take advantage of its ordinary rejection ratio. Therefore, it seems unjust and unreasonable that the Commission should take the hard and fast rule of minimum co-channel spacings as the sole criteria for station assignments as if they were all utilizing maximum power and maximum antenna heights.

I pointed out in my dissent to the Memorandum Opinion of the Commission on the statutory authority to adopt a Table of Assignments (released July 13, 1951) that Section 307 (b) of the Communications Act requires the Commission to determine the problems of fair, equitable and efficient distribution of radio service among the several states and communities in proceedings on applications for radio station licenses and modifications and renewals thereof. I think it plain that Congress intended not merely to protect rights of applicants but to provide the most effective procedure for Commission determinations. I do not believe that the Commission can substitute its views or preferences for other procedures for the method laid down by Congress. I will not here repeat at further length the arguments contained in my dissenting opinion above referred to.

If it be assumed, however, that the Commission is free to evade its duty to decide 307(b) issues in competitive hearings on applications and in lieu thereof to make a predetermination of such issues in a general proceeding, there are two fatal objections to the Commission's present attempt to make such a predetermination. First, essential considerations required to be decided on the basis of fact have been completely ignored by the Commission in the instant proceedings. See *Easton Publishing Co.* v. *FCC*, 175 F(2) 344, 4 RR 2147. The second is that the engineering basis upon which the Commission purports to rest its decision does not in fact support the result but on the contrary demonstrates its invalidity.

The majority admits that the most important elements in its assignment plan is its minimum spacing or station separation factor. It is demonstrated below that the minimum separation factor stated by the Commission is unsound from an engineering standpoint and is designed to preclude rather than permit maximum service. Further than that, it is shown that the Commission has completely failed to make assignments which would be permitted if it adhered to its own separations. The net result is that the Commission has drastically limited the number of television stations which could be licensed in this country and has created an artificial scarcity. I am profoundly disturbed not only by the long range effect of this action but by the immediate consequences, which are that years of litigation must ensue before any considerable number of new television stations can be put in operation in the United States.

It is theoretically possible from a technical standpoint to provide for over 2½ times as many VHF stations if a proper separation factor is used as could be provided if the Commission's separation factor is used. Practical considerations undoubtedly would limit somewhat the number of stations that are possible from a theoretical standpoint. But these considerations apply alike to the number permissible using the Commission's separation factor and to the number possible using a proper separation factor.

The standard by which the rules and television allocation table adopted by the Commission must be tested is whether they provide "a fair, efficient and equitable" distribution of television service in compliance with Section 307(b). As the Commission said in its Memorandum Opinion in this proceeding released on July 13, 1951, that is the "standard to be applied in all cases . . .". In their Report they have given only lip service to that standard and then principally in situations in which the standard enabled them to reject some contention made by one or more of the parties (par. 194).

The fatal defect in the approach of the Commission is that, despite their occasional reference to the "fair, efficient and equitable distribution" standard, that standard has been abandoned in favor of an undiscriminating adherence, sometimes explicit and always implicit, to a supposed policy of administrative convenience. The inevitable result is an allocation which is neither fair nor efficient nor equitable and which so far departs from the realities as to be completely arbitrary and capricious. The preceding discussion has to some extent indicated the arbitrary nature of the engineering conclusions upon which the allocations rest; a brief summary of a few of the practical results will serve to illustrate how far the allocations serve to defeat the injunction of the Communications Act that the Commission "generally encourage the larger and more effective use of radio in the public interest" (Section 303 (g)), and "when and *insofar as there is demand for the same*, the Commission shall make such distribution of licenses, frequencies, hours of operation, and of power among the several States and communities as to provide a fair, efficient, and equitable distribution of radio service to each of the same." (Sec. 307(b)) (emphasis supplied).

The Commission emphasizes at the outset that the allocations "must be based upon, and must reflect, the best available engineering information" (par. 2). Having announced that undebatable proposition, they then proceed to adopt a table of allocations based upon curves which they explicitly concede are inapplicable to any specific station. This is the first administrative decision of which I am aware which so frankly conceded that the general principles underlying it cannot be applied to any specific situation which will be governed by the decision. As the Commission admits, the allocations are based upon hypothetical situations which will never occur, upon the assumption contrary to fact, that the stations which will be involved will be "typical ones producing the average field intensities described by the charts." Such an arbitrary assumption may simplify the work of the Commission but it can scarcely be expected to result in a fair, efficient or equitable distribution of television facilities. It is easier to estimate the number of lemons in a barrel if you assume the barrel is filled with lemons, but the estimate is of dubious value if you know in advance that the barrel contains grapefruit and oranges but no lemons.

The most striking result of this blind devotion to administrative convenience is the arbitary specification of minimum co-channel separations on the mistaken theory that "the larger and more effective use of radio in the public interest" and the "efficient" distribution of television service requires maximum station coverage in terms of freedom from theoretical co-channel interference rather than maximum use of the available frequencies. The Commission has sought to protect the interference-free service areas of existing and proposed stations by reducing substantially the number of stations which can be accommodated throughout the country by the device of establishing excessive minimum co-channel assignment spacings. The result is, as the Commission states, to improve the Grade B service of the proposed stations; it is also greatly to reduce the number of stations and the availability of additional service, both Grade A and Grade B, to the rural areas and to increase the areas which will not receive any television service. The result is to sacrifice efficiency in the distribution of the available channels in order to confer an unnecessary benefit upon the fewer persons who, because of the Commission's Rules, will be able to enter the field. In addition, the Commission has established a new class of stations which will utilize these same channels for non-commercial educational facilities which play a part in the scarcity of VHF assignments for both commercial and educational use in any city.[6]

The resulting inefficiency in the utilization of available channels would have been sufficiently serious had the Table conformed to the Rules. But, in compiling the Table, the minimum co-channel separations were largely ignored; for example, in the Eastern Zone, only some 4% of the allocations approximate the prescribed minimum, and the median separation is 250 miles, or 47% in excess of the minimum of 170 miles specified in the Rules. That means that many communities are losing the possibility of television service in order that stations located in other communities may be protected.

That unfortunate consequence is worsened by the arbitrary rules and the Commission's assumption that all stations, however small the community, will operate at the maximum permissible power. The Commission has rejected the proposal for assignments based upon limited power stations in small communities (par. 137-8) on the grounds that the Table and Rules "are based on the concept of affording each station the widest possible coverage . . ." and that limited power stations, although capable of serving the local needs of small communities, would be inconsistent with that concept. The result is obvious: fewer stations, less efficient use of available channels and disregard of local necessities and convenience in the interest of maintaining an inflexible concept.

Characteristic of the arbitrary approach to the problem and of the resulting inefficient utilization of channels is the measurement of permissible co-channel spacings by the accidental location of post offices (par. 105-8). Communities will be deprived of additional channels because of the wholly irrelevant fact that their main post offices, which have no logical connection with any proposed or possible television station, are located nearer another post office or an existing transmitter than the required minimum distance, notwithstanding the existence of numerous potential transmitter sites at greater distances. It is not a

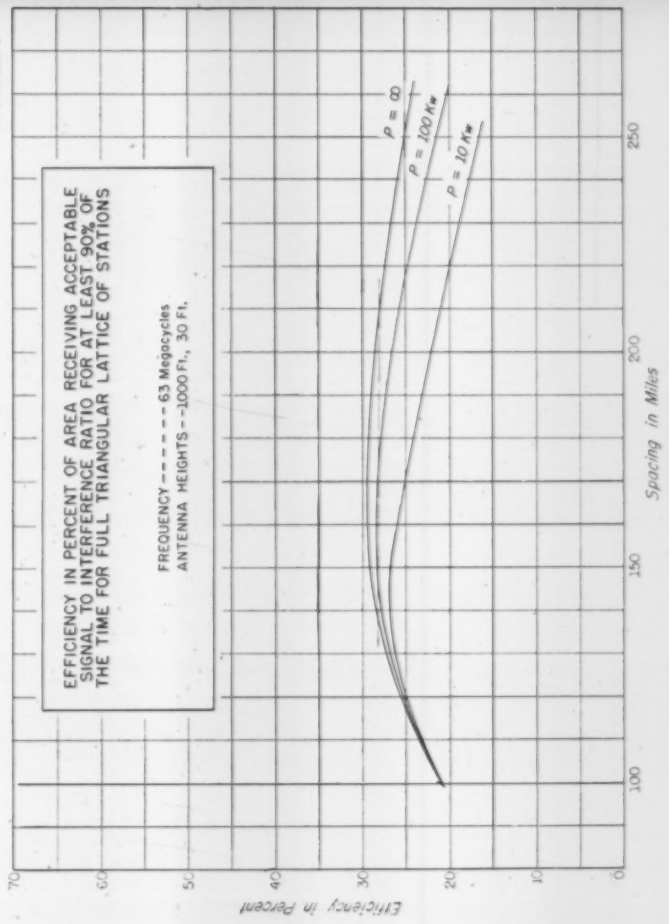
[6] The Commission states several times in its opinion that the setting aside of channels for non-commercial, educational use is precisely the same type of reservation of channels as that provided by the assignment table for commercial stations in the various communities. This is not the view that I take of the assignment of shared use of the channels for non-commercial educational television stations, and I do not believe the majority's statement correctly describes the action of the Commission. The Commission has created a new class of radio stations and a new use of the radio frequencies, namely, non-commercial, educational television. This class is as distinct from commercial television stations as point-to-point communication stations. The Commission in providing for any new use of frequencies and assigning specific frequencies on a full or shared time basis for a new service may be said to "reserve" frequencies for that service. This is an essentially different thing than a reservation of frequencies for specific applicants for specific communities, all of which are qualified for the use of the service involved. There are numerous Commission precedents, particularly where shared use of frequencies is involved, for designating areas in which the frequencies will be used for a certain service. For example, the Commission provided for shared use of frequencies for certain harbor purposes and certain highway purposes. Obviously, to assign a frequency for harbor use to Denver would be absurd. In designating areas for operation for non-commercial educational television stations, the Commission sought to select areas which are "cultural centers." It would obviously be a waste of channels for the Commission to assign channels for non-commercial educational stations to areas where there are no educational facilities for the operation of such stations. The fundamental difference between reservation of channels for a class of stations and reservation of channels for favored communities as against other communities equally qualified must be recognized if the validity of our assignments for non-commercial educational television stations is to be upheld.

answer to reply, as does the Commission, that the Table and Rules are concerned with "assignment spacing requirements" rather than "facilities spacing requirements." Transmitters will not, in the normal course of events, be erected on top of post offices; if there are available sites complying with the Rules, there is no reason to deprive a community of service, or of additional service, because of some ancient whim which determined the location of a main post office. Not by such accidents should the Commission make decisions affecting the efficient distribution of channels.

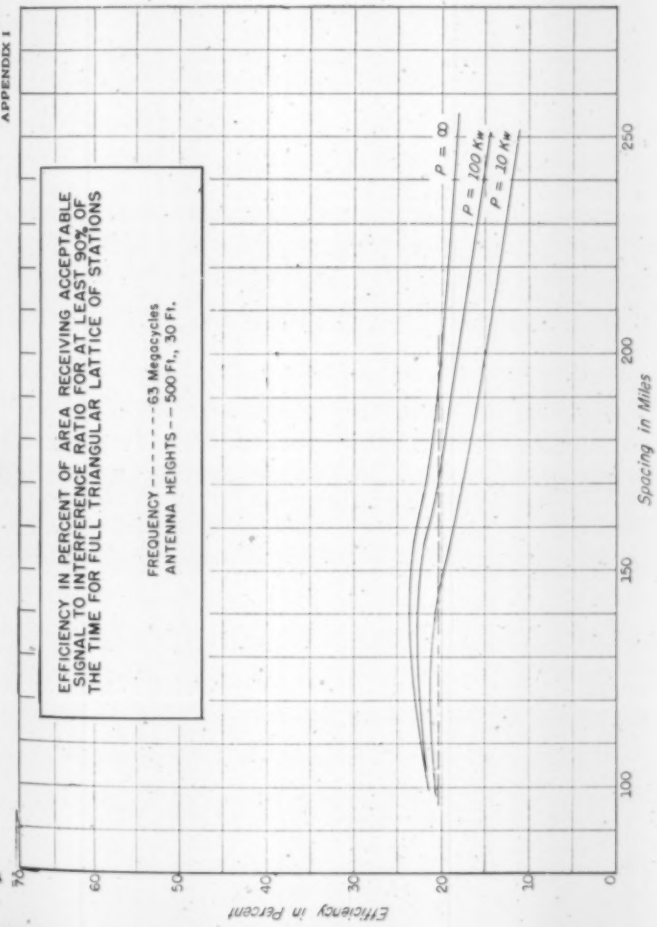
The Commission recognizes the economic problems which will be faced by UHF broadcasters where VHF broadcasting exists (par. 189) and expresses (par. 197) the pious hope that "UHF stations will eventually compete on a favorable basis with stations in the VHF." But, by giving excessive co-channel protection to VHF stations and inadequate protection to UHF stations the Commission has arbitrarily and adversely affected the ability of UHF stations to compete. The economic problems faced by UHF broadcasters are sufficiently serious without the interjection of additional difficulties by Rules and Tables based upon demonstrably incorrect engineering assumptions. The arbitrary penalization of UHF cannot be said to result in a "fair" or "equitable" distribution of television service or "the larger and more effective use" of television in the public interest.

In short, the Commission's preoccupation with the concept of administrative simplicity has led it into the error of first treating all stations as if they were equal in order to facilitate standardization of rules concerning separation and other matters and then adopting rules designed to assure, so far as possible, that the standardization would be carried out in practice without regard to particular situations or local requirements. Efficient distribution of channels and the provision of the maximum number of television stations have been sacrified to achieve a misleading appearance of simplicity of administration. The public interest, convenience and necessity have been abandoned to the theoretical convenience of the Commission. The small communities are to be subjected to rules drawn upon considerations applicable primarily or wholly to large cities. The apparent simplicity of administration is an illusion that will disappear as soon as the number and complexity of conflicting applications under the Standards emerge. The Commission thinks it has eliminated 307(b) contests between cities (it has not eliminated them all); but by creating a scarcity of frequencies it has created a bigger problem in each city where there will surely be more applicants than there are channels. The administrative burden created by competitive applicants for the limited number of frequencies by this artificial scarcity of channel assignments will far outweigh the administrative burden they are trying to eliminate—intercity 307(b) cases.

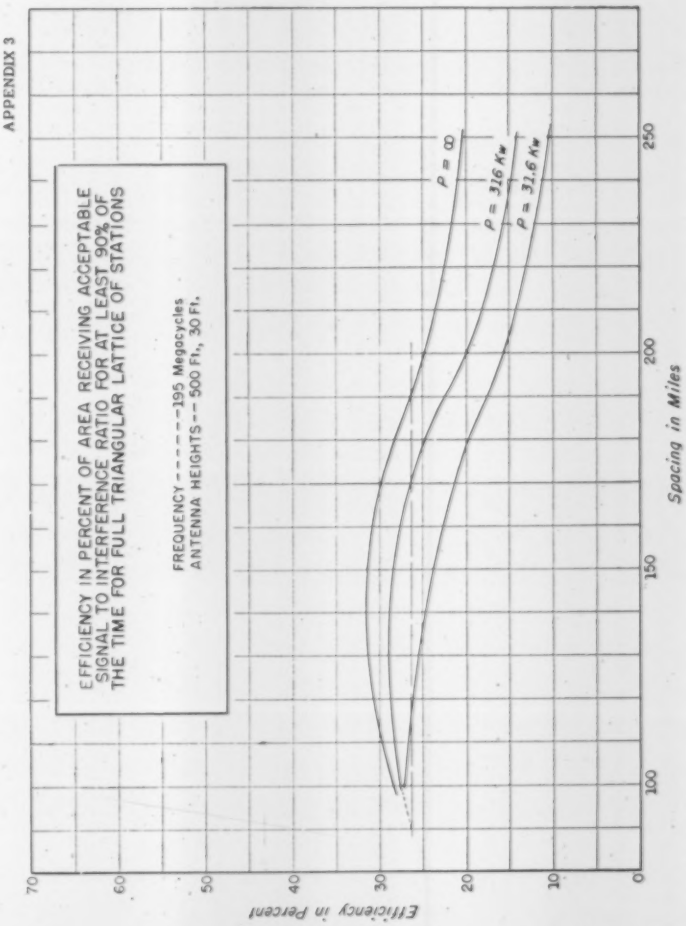
APPENDIX 2


EFFICIENCY IN PERCENT OF AREA RECEIVING ACCEPTABLE SIGNAL TO INTERFERENCE RATIO FOR AT LEAST 90% OF THE TIME FOR FULL TRIANGULAR LATTICE OF STATIONS
FREQUENCY - - - - - - - 63 Megacycles
ANTENNA HEIGHTS - - 1000 Ft., 30 Ft.
P = ∞
P = 100 Kw
P = 10 Kw
Efficiency in Percent
Spacing in Miles

APPENDIX 1


EFFICIENCY IN PERCENT OF AREA RECEIVING ACCEPTABLE SIGNAL TO INTERFERENCE RATIO FOR AT LEAST 90% OF THE TIME FOR FULL TRIANGULAR LATTICE OF STATIONS
FREQUENCY - - - - - - - 63 Megacycles
ANTENNA HEIGHTS - - 500 Ft., 30 Ft.
P = ∞
P = 100 Kw
P = 10 Kw
Efficiency in Percent
Spacing in Miles

APPENDIX 3


EFFICIENCY IN PERCENT OF AREA RECEIVING ACCEPTABLE SIGNAL TO INTERFERENCE RATIO FOR AT LEAST 90% OF THE TIME FOR FULL TRIANGULAR LATTICE OF STATIONS
FREQUENCY - - - - - - - 195 Megacycles
ANTENNA HEIGHTS - - 500 Ft., 30 Ft.
P = ∞
P = 316 Kw
P = 31.6 Kw
Efficiency in Percent
Spacing in Miles

APPENDIX 4

EFFICIENCY IN PERCENT OF AREA RECEIVING ACCEPTABLE SIGNAL TO INTERFERENCE RATIO FOR AT LEAST 90% OF THE TIME FOR FULL TRIANGULAR LATTICE OF STATIONS
FREQUENCY - - - - - - 195 Megacycles
ANTENNA HEIGHTS - - 1000 Ft., 30 Ft.
P = ∞
P = 316 Kw
P = 31.6 Kw
Efficiency in Percent
Spacing in Miles

APPENDIX 5

EFFICIENCY IN PERCENT OF AREA RECEIVING ACCEPTABLE SIGNAL TO INTERFERENCE RATIO FOR AT LEAST 90% OF THE TIME FOR FULL TRIANGULAR LATTICE OF STATIONS
FREQUENCY - - - - - - 500 Megacycles
ANTENNA HEIGHTS - - 500 Ft., 30 Ft.
P = ∞
P = 1000 Kw
P = 100 Kw
Efficiency in Percent
Spacing in Miles

APPENDIX 6

EFFICIENCY IN PERCENT OF AREA RECEIVING ACCEPTABLE SIGNAL TO INTERFERENCE RATIO FOR AT LEAST 90% OF THE TIME FOR FULL TRIANGULAR LATTICE OF STATIONS
FREQUENCY - - - - - - 500 Megacycles
ANTENNA HEIGHTS - - 1000 Ft., 30 Ft.
P = ∞
P = 1000 Kw
P = 100 Kw
Efficiency in Percent

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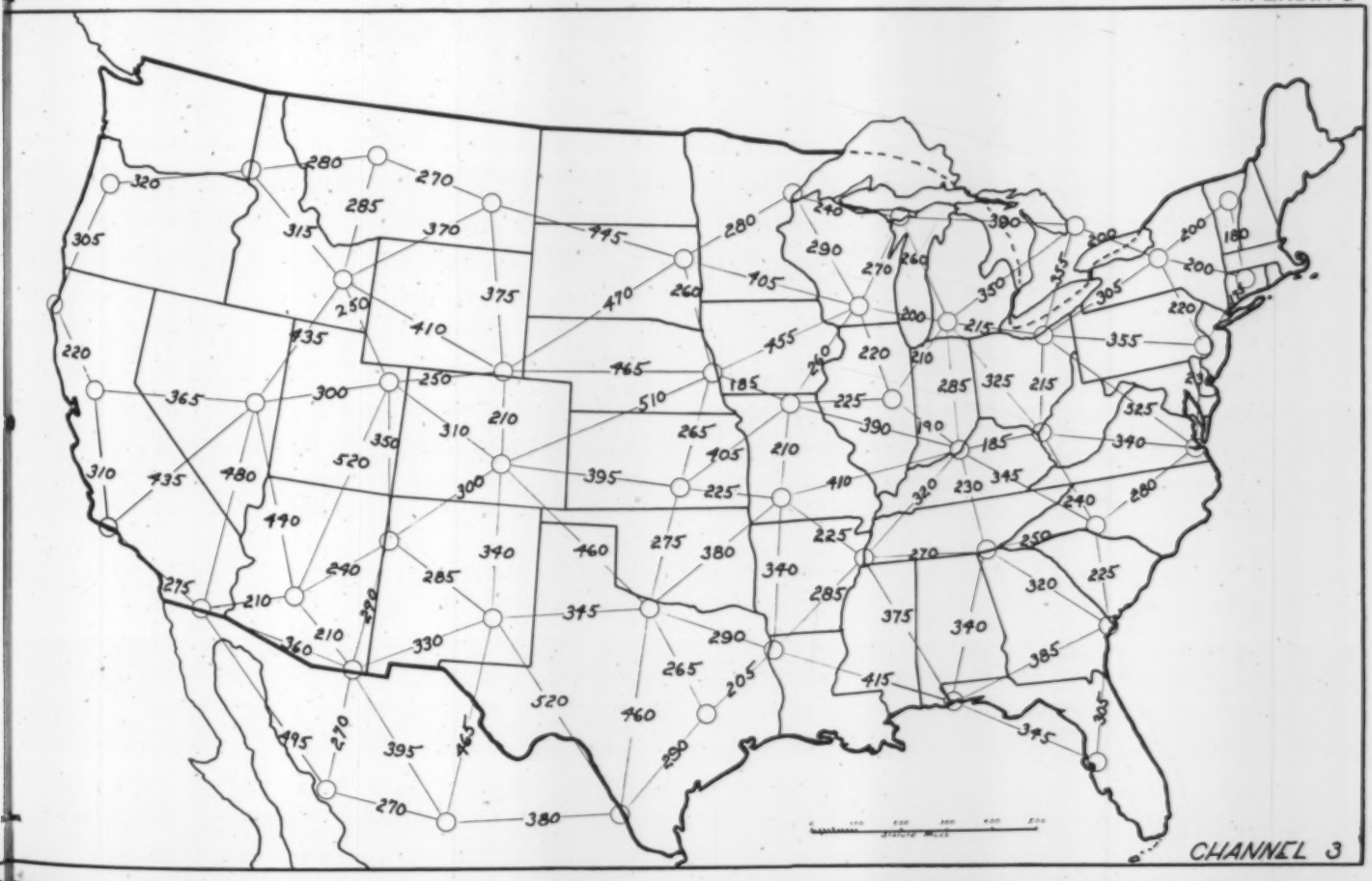
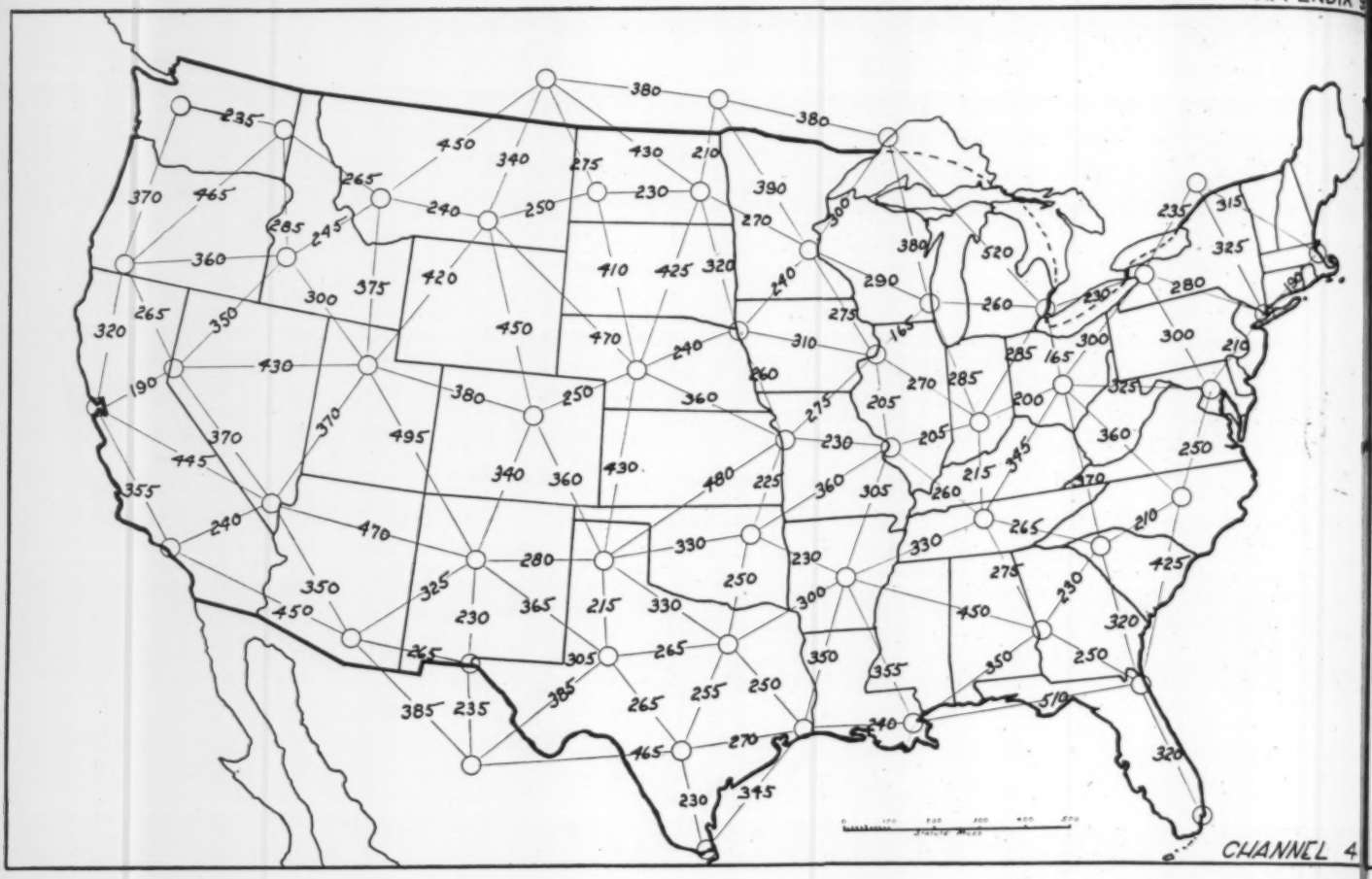
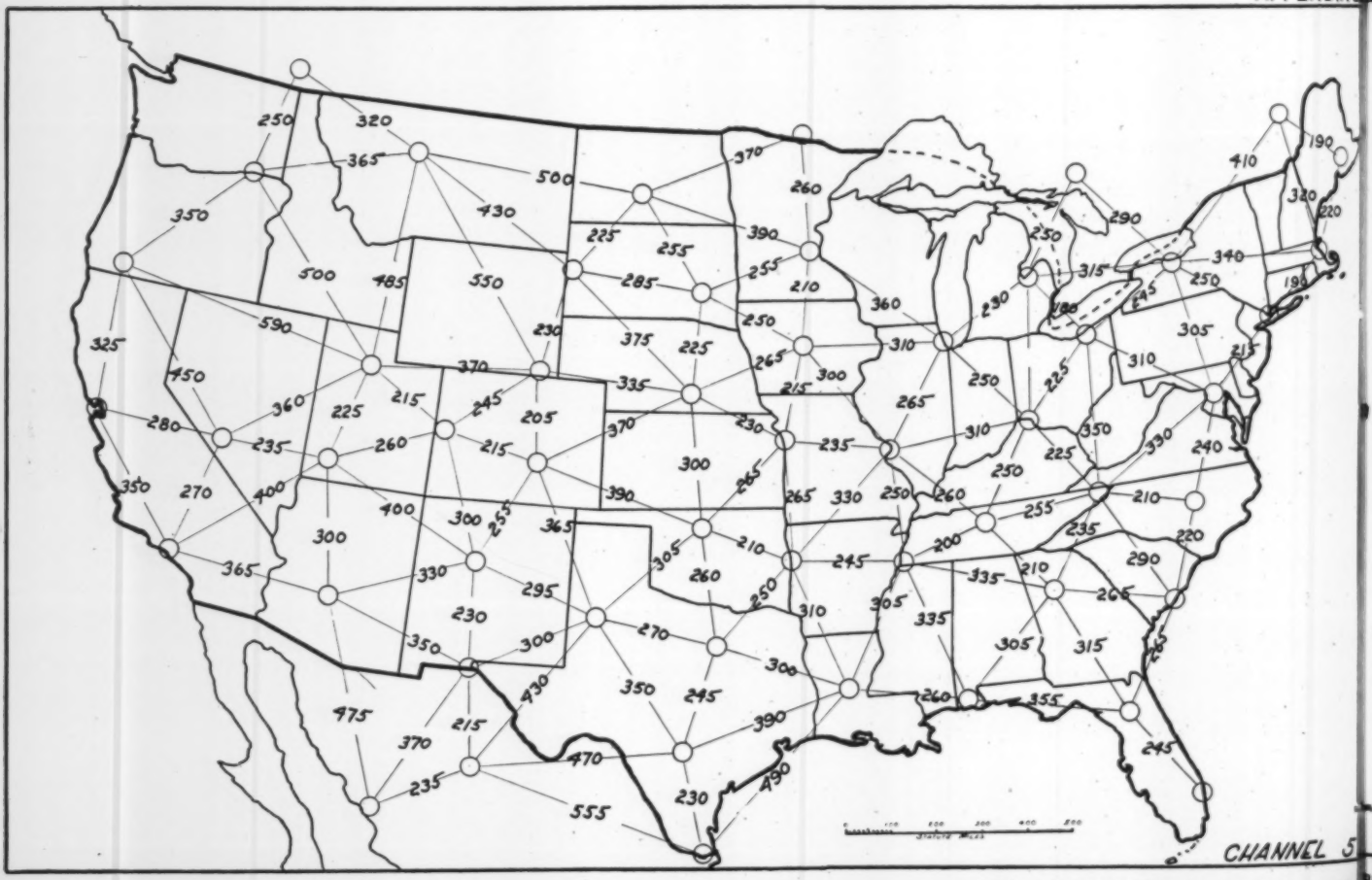
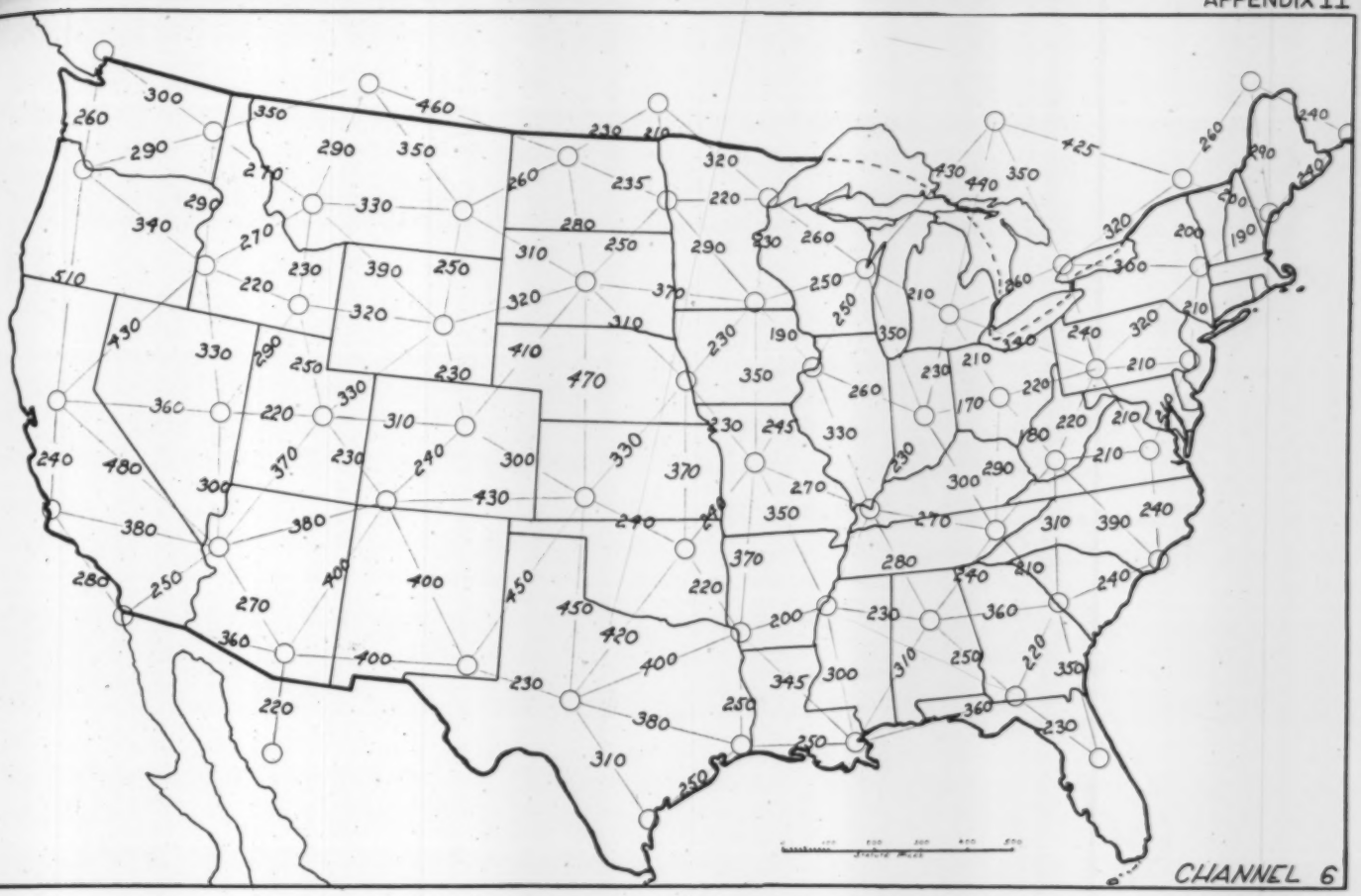
APPENDIX 7

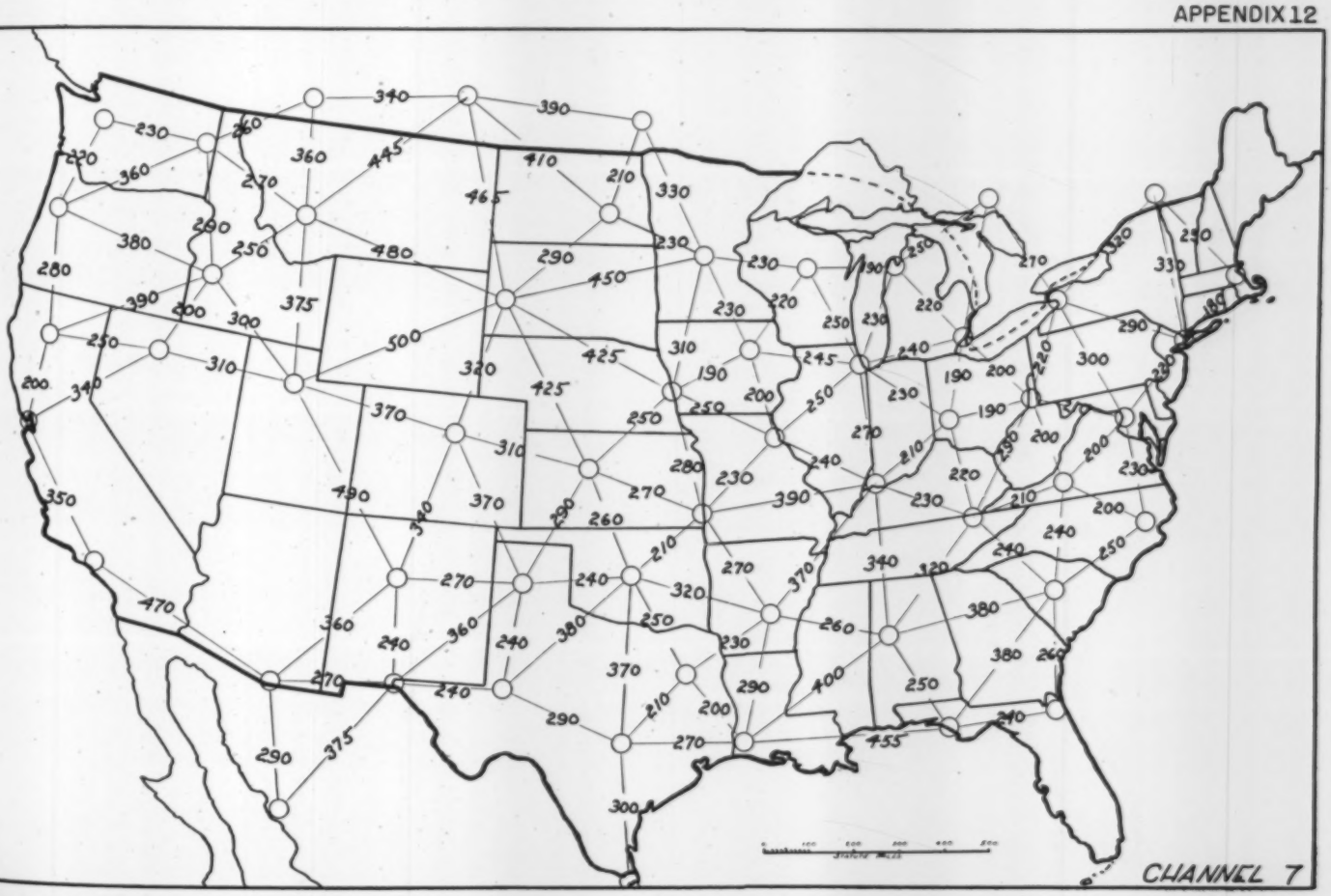
APPENDIX 8

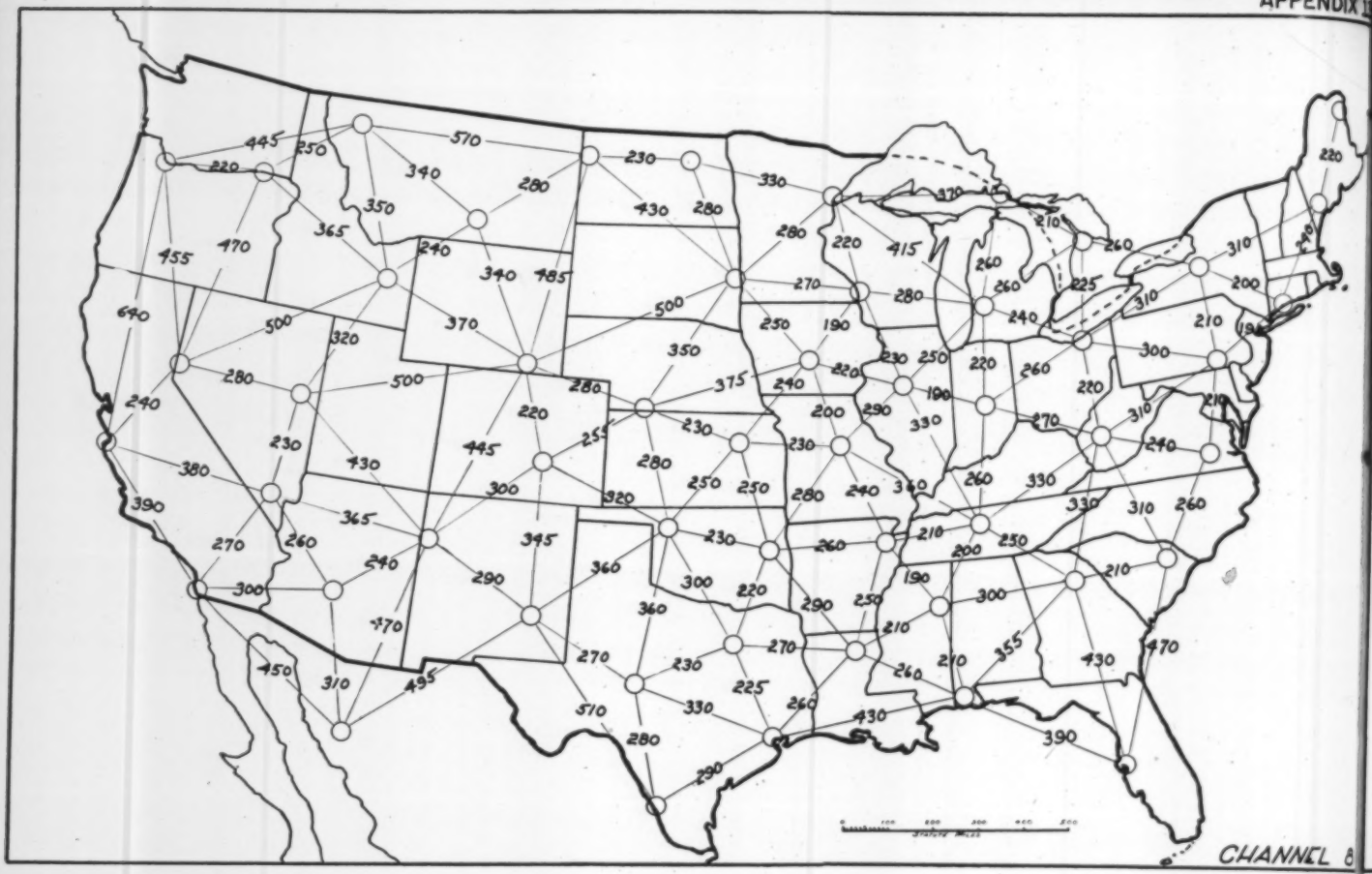


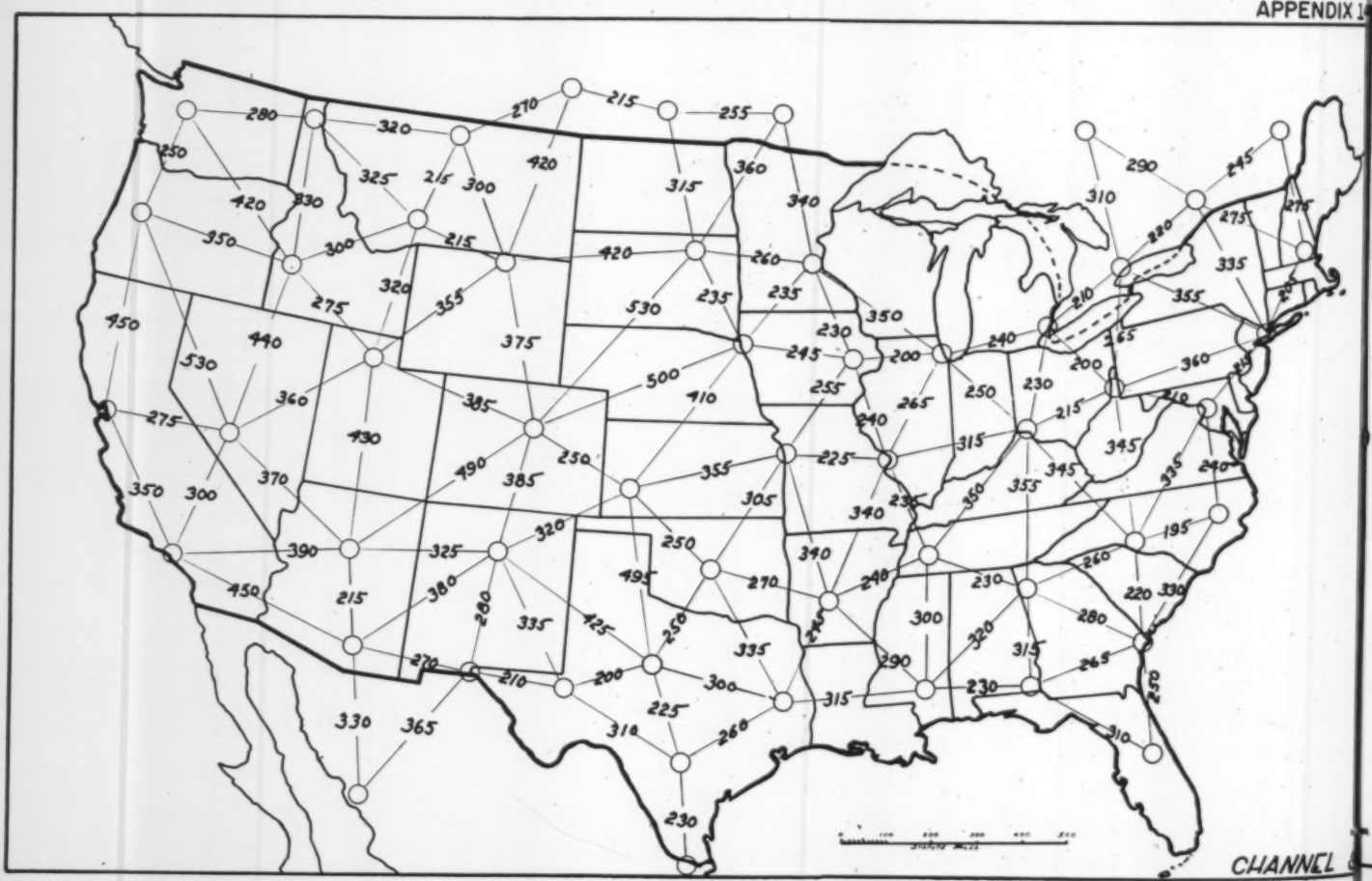

CHANNEL 4

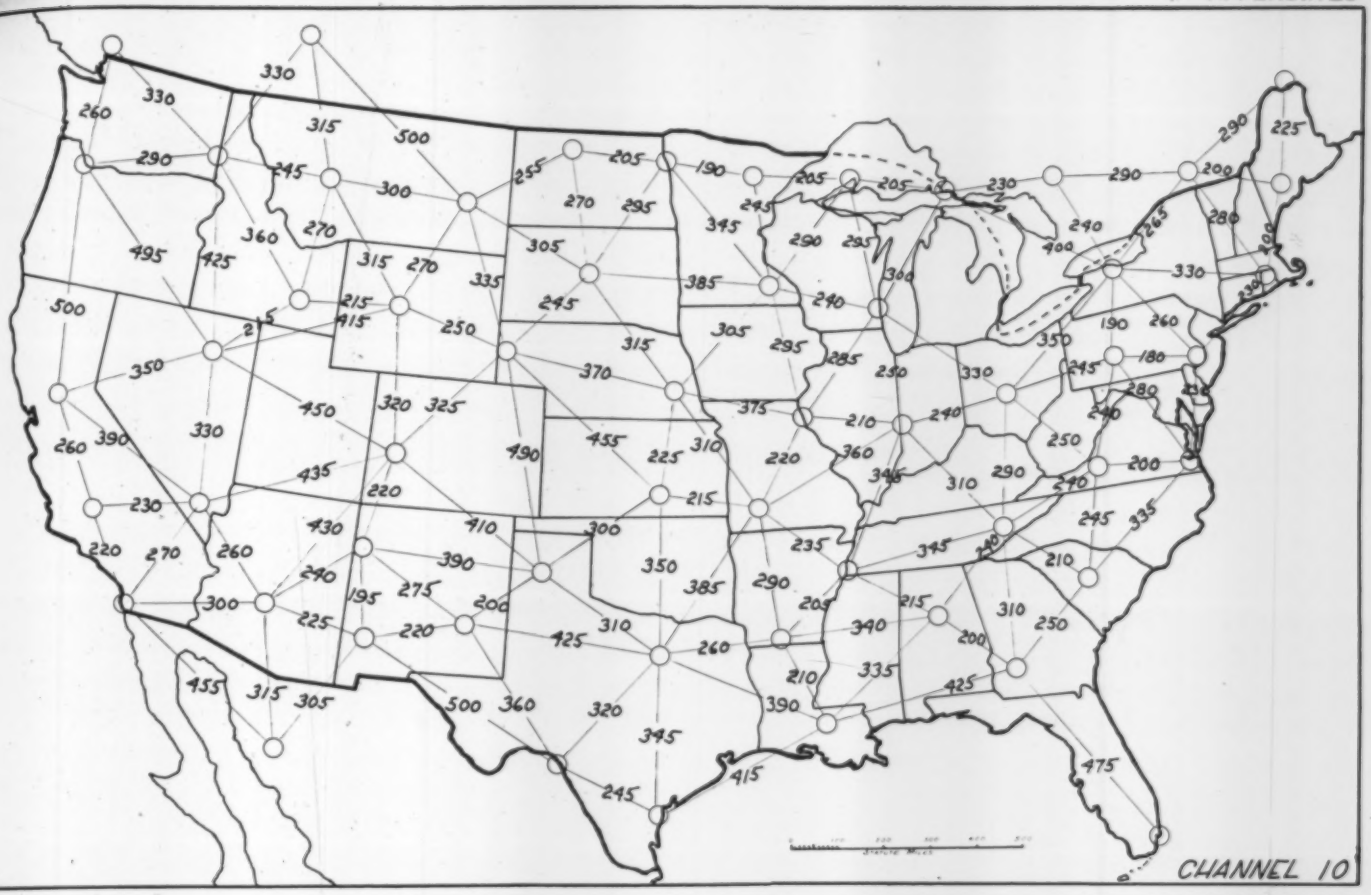

CHANNEL 5

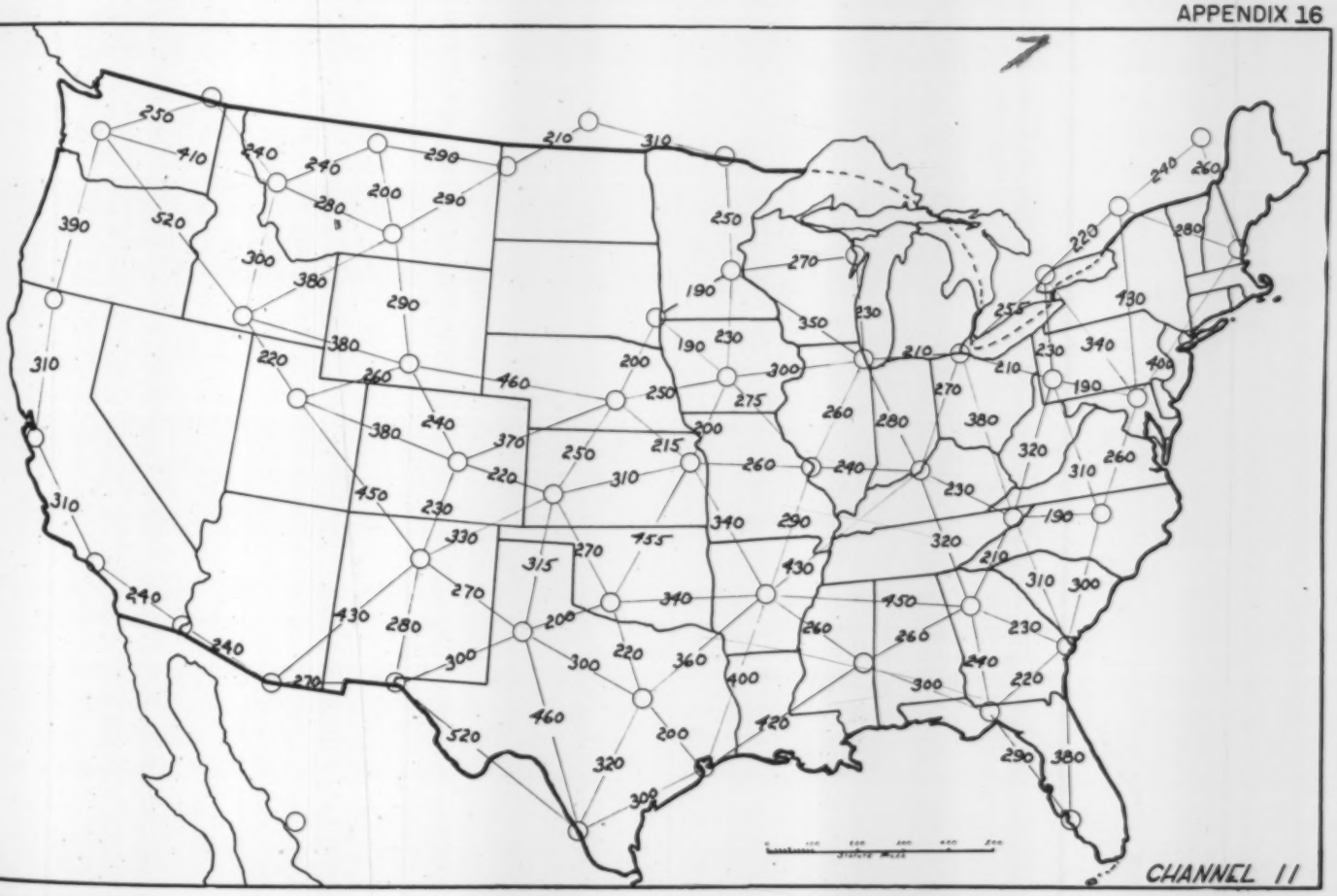

CHANNEL 6

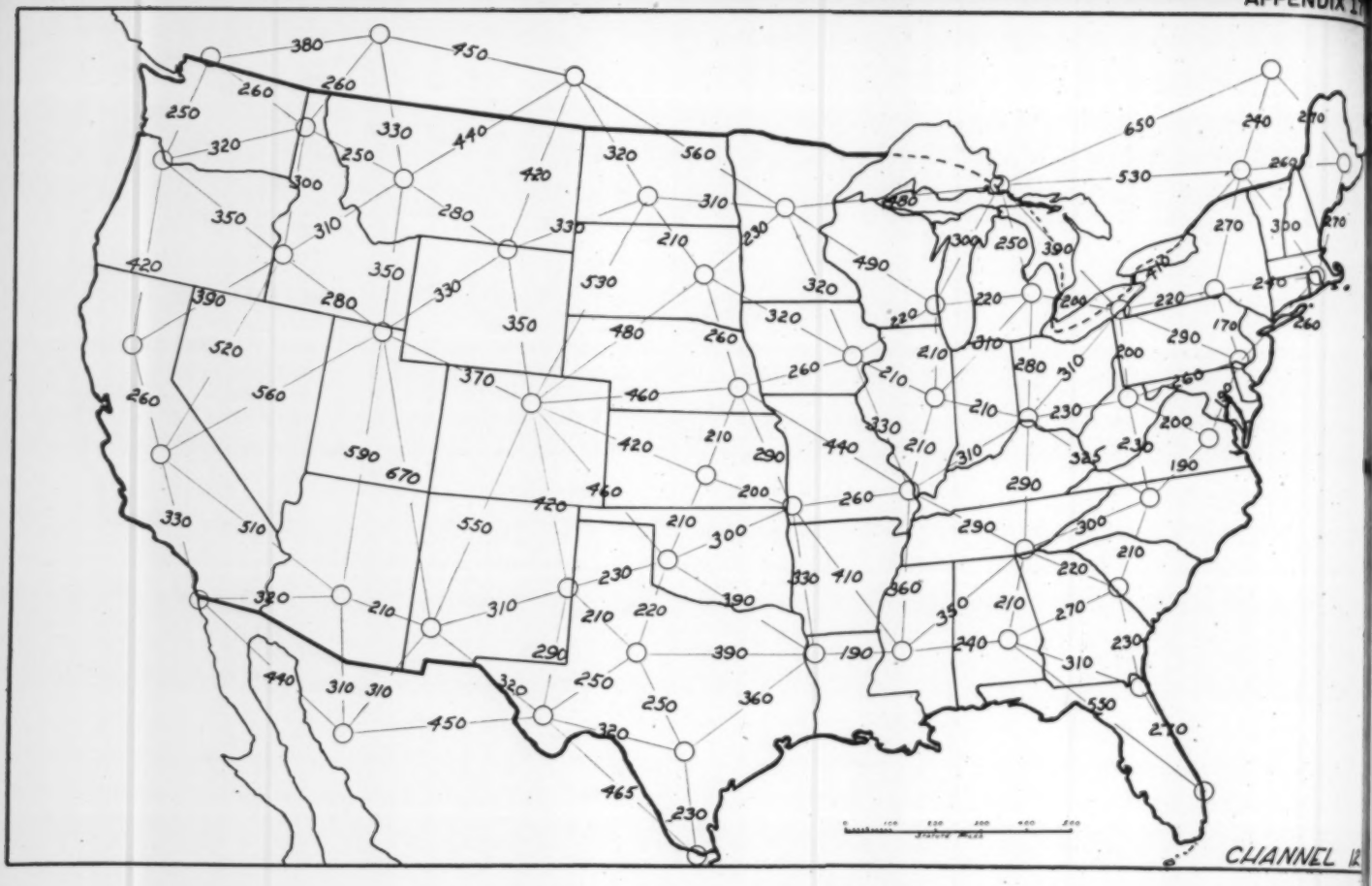

CHANNEL 7

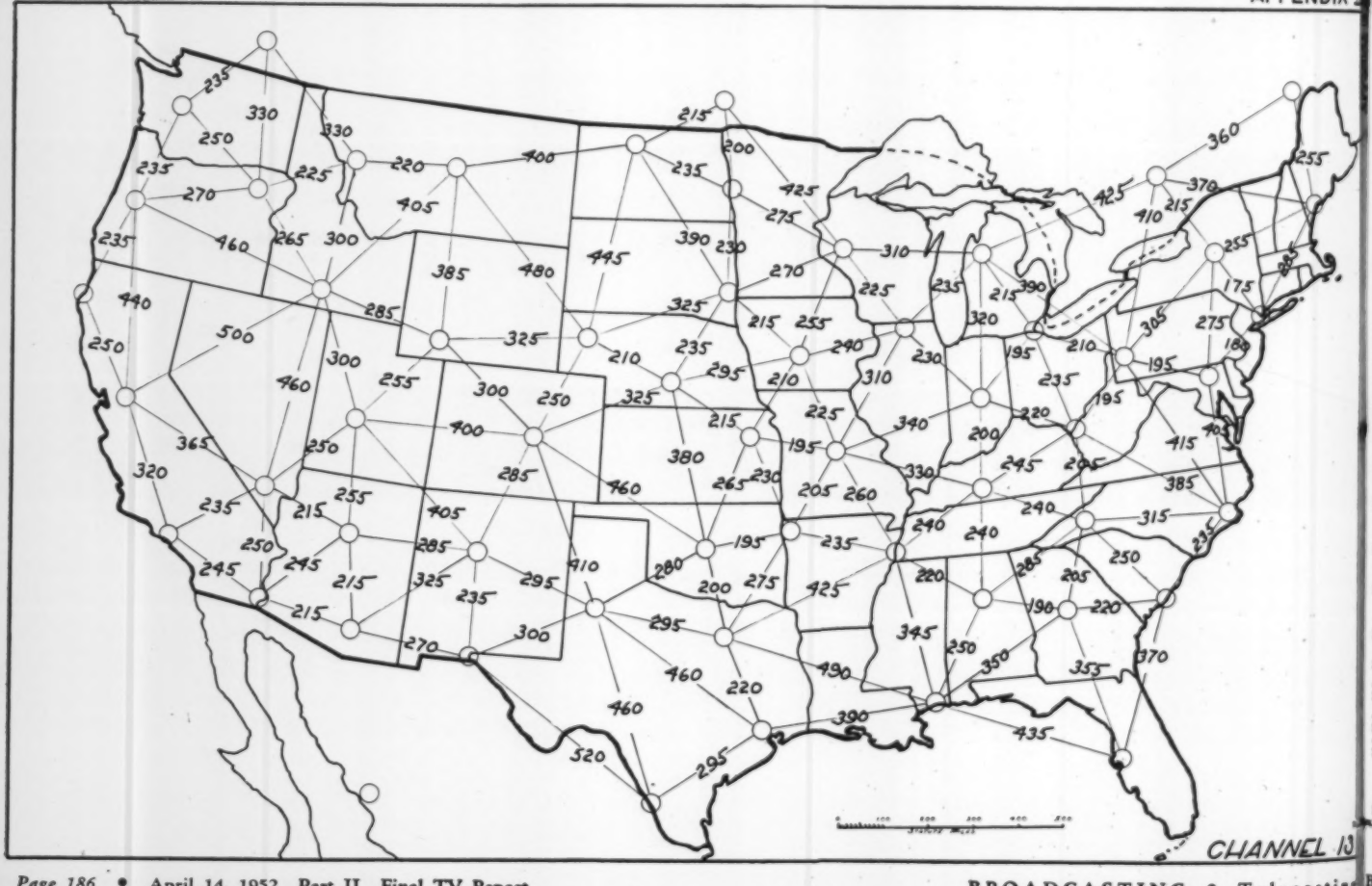

CHANNEL 6


CHANNEL

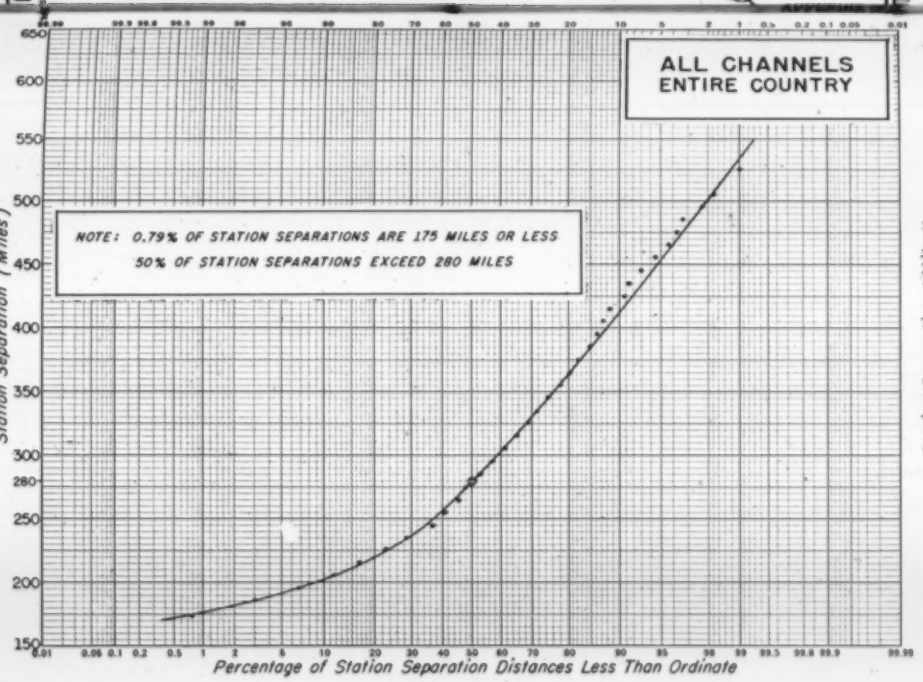

CHANNEL 10

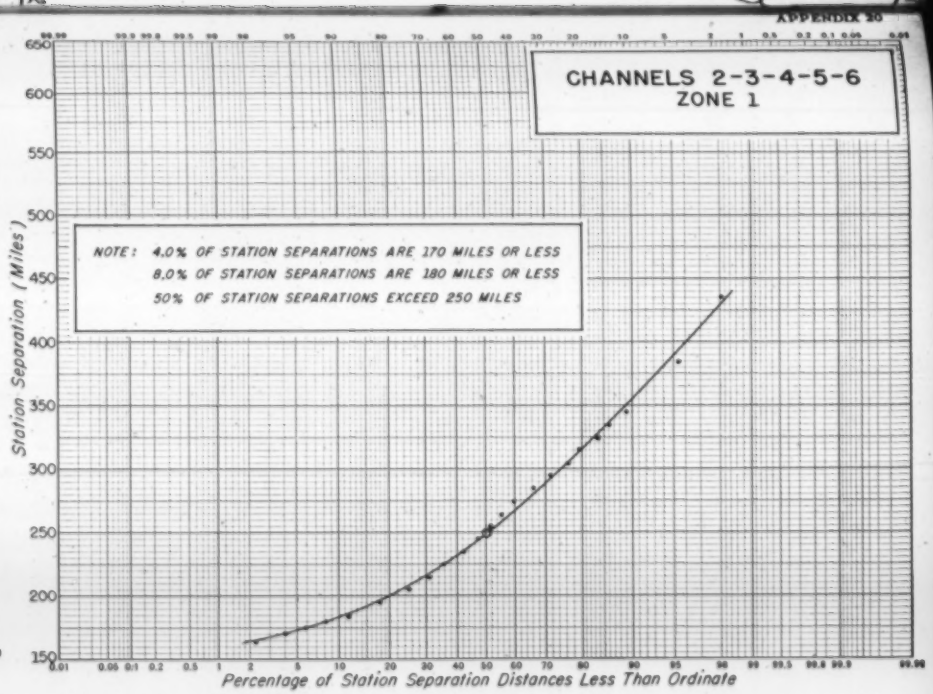

CHANNEL 11


CHANNEL 12


CHANNEL 13

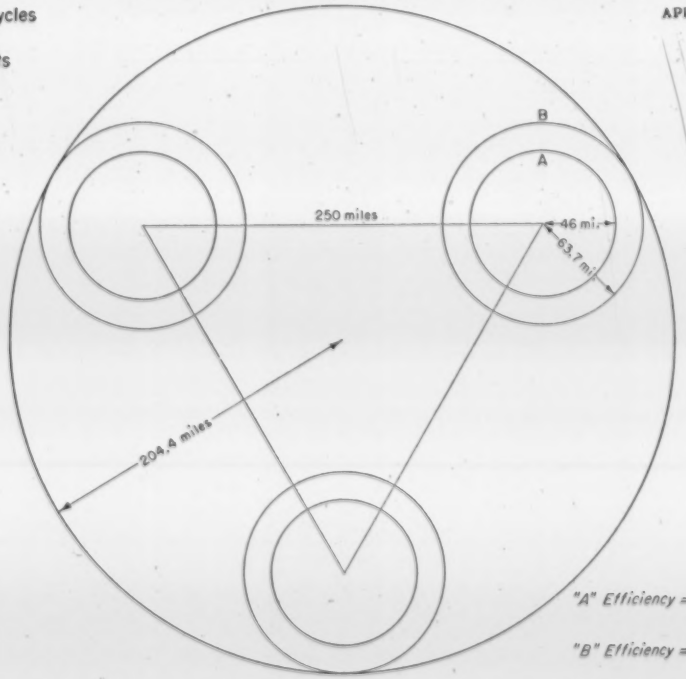
APPENDIX 20


ALL CHANNELS
ENTIRE COUNTRY
NOTE: 0.79% OF STATION SEPARATIONS ARE 175 MILES OR LESS
50% OF STATION SEPARATIONS EXCEED 280 MILES
Station Separation (Miles)
Percentage of Station Separation Distances Less Than Ordinate


CHANNELS 2-3-4-5-6
ZONE 1
NOTE: 4.0% OF STATION SEPARATIONS ARE 170 MILES OR LESS
8.0% OF STATION SEPARATIONS ARE 180 MILES OR LESS
50% OF STATION SEPARATIONS EXCEED 250 MILES
Station Separation (Miles)
Percentage of Station Separation Distances Less Than Ordinate

APPENDIX 21

195 megacycles
1000 feet
316 kilowatts



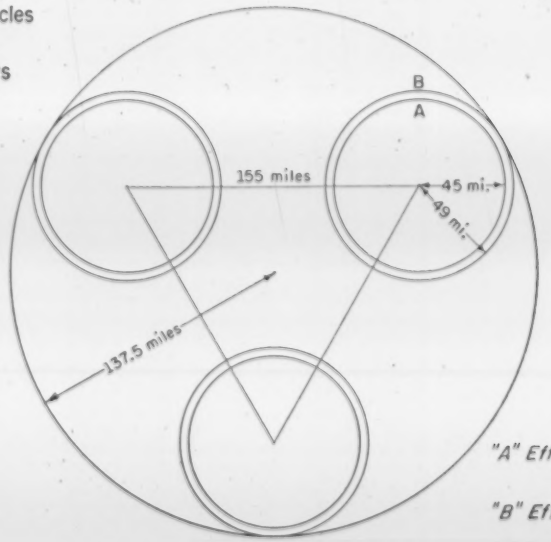
"A" Efficiency = $\frac{200A_a}{\sqrt{3}\cdot S^2} = 12.3\%$

"B" Efficiency = $\frac{200A_a}{\sqrt{3}\cdot S^2} = 23.6\%$

A = Service Area
S = Cochannel Spacing

APPENDIX 22

195 megacycles
1000 feet
316 kilowatts

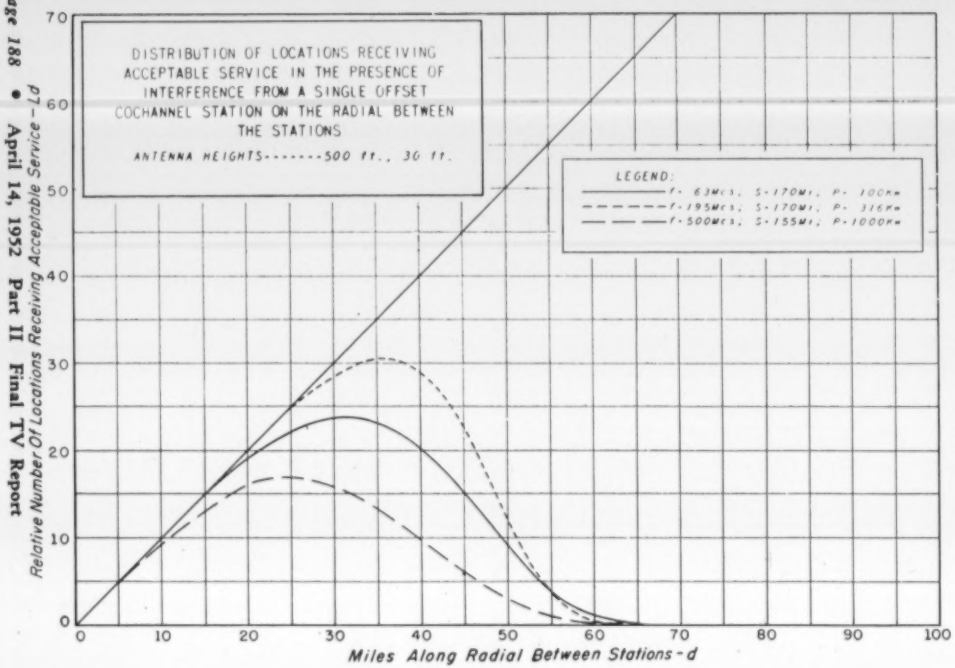


"A" Efficiency = $\frac{200A_a}{\sqrt{3}\cdot S^2} = 30.5\%$

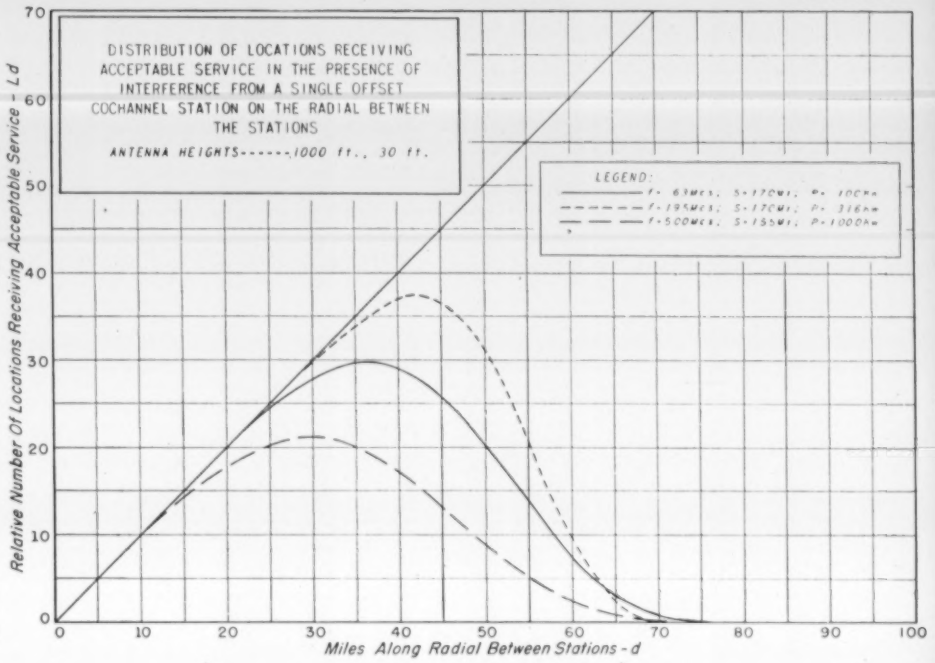
"B" Efficiency = $\frac{200A_a}{\sqrt{3}\cdot S^2} = 37.4\%$

A = Service Area
S = Cochannel Spacing

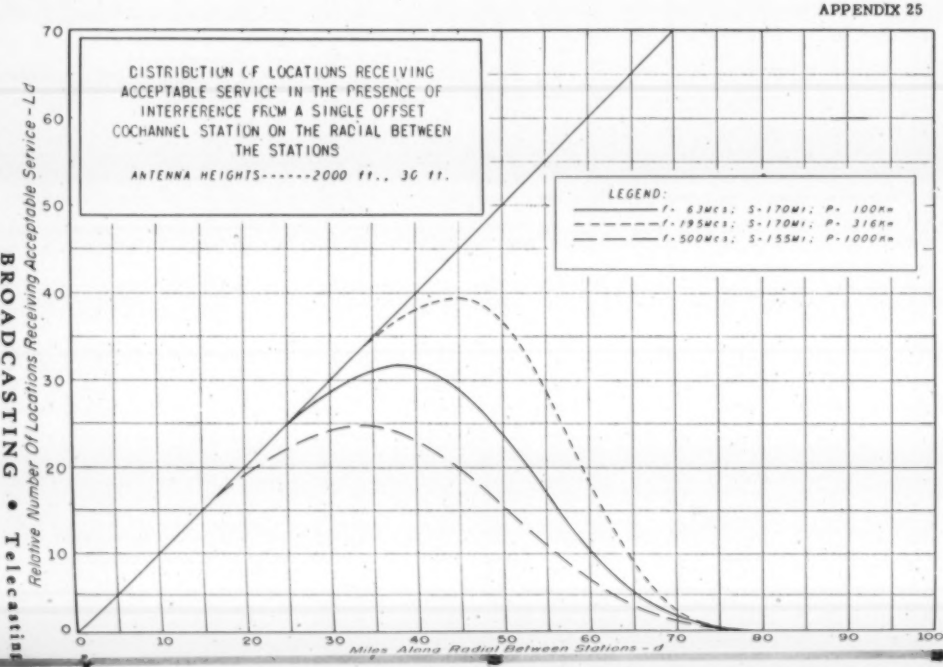
APPENDIX 23


DISTRIBUTION OF LOCATIONS RECEIVING ACCEPTABLE SERVICE IN THE PRESENCE OF INTERFERENCE FROM A SINGLE OFFSET COCHANNEL STATION ON THE RADIAL BETWEEN THE STATIONS
ANTENNA HEIGHTS-------500 ft., 30 ft.
LEGEND:
f- 63Mcs; S-170Mi; P- 100Kw
f-195Mcs; S-170Mi; P- 316Kw
f-500Mcs; S-155Mi; P-1000Kw
Relative Number Of Locations Receiving Acceptable Service - Ld
Miles Along Radial Between Stations - d

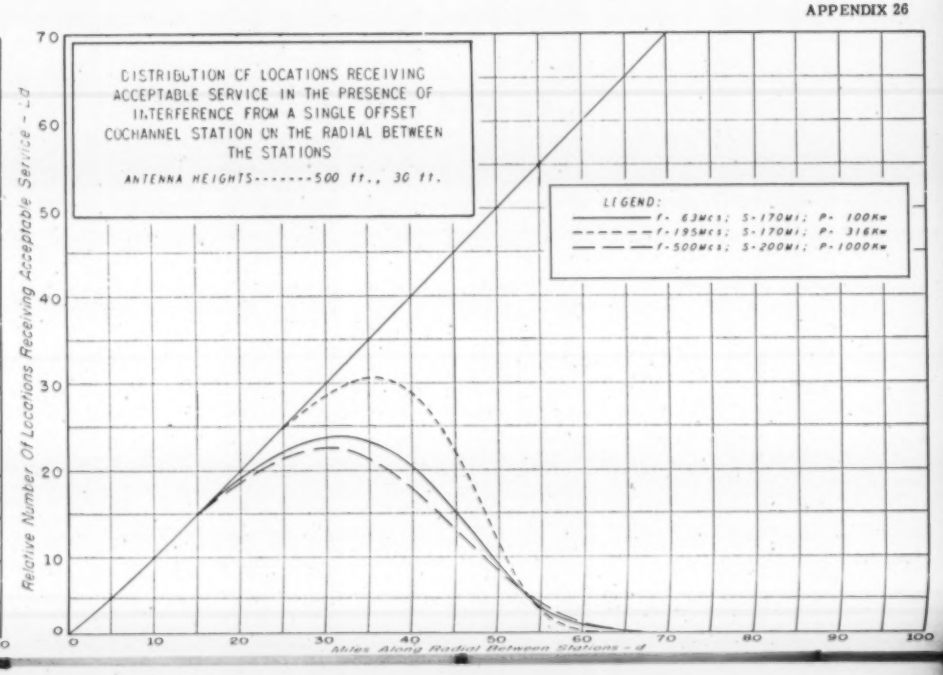
APPENDIX 24


DISTRIBUTION OF LOCATIONS RECEIVING ACCEPTABLE SERVICE IN THE PRESENCE OF INTERFERENCE FROM A SINGLE OFFSET COCHANNEL STATION ON THE RADIAL BETWEEN THE STATIONS
ANTENNA HEIGHTS------1000 ft., 30 ft.
LEGEND:
f- 63Mcs; S-170Mi; P- 100Kw
f-195Mcs; S-170Mi; P- 316Kw
f-500Mcs; S-155Mi; P-1000Kw
Relative Number Of Locations Receiving Acceptable Service - Ld
Miles Along Radial Between Stations - d

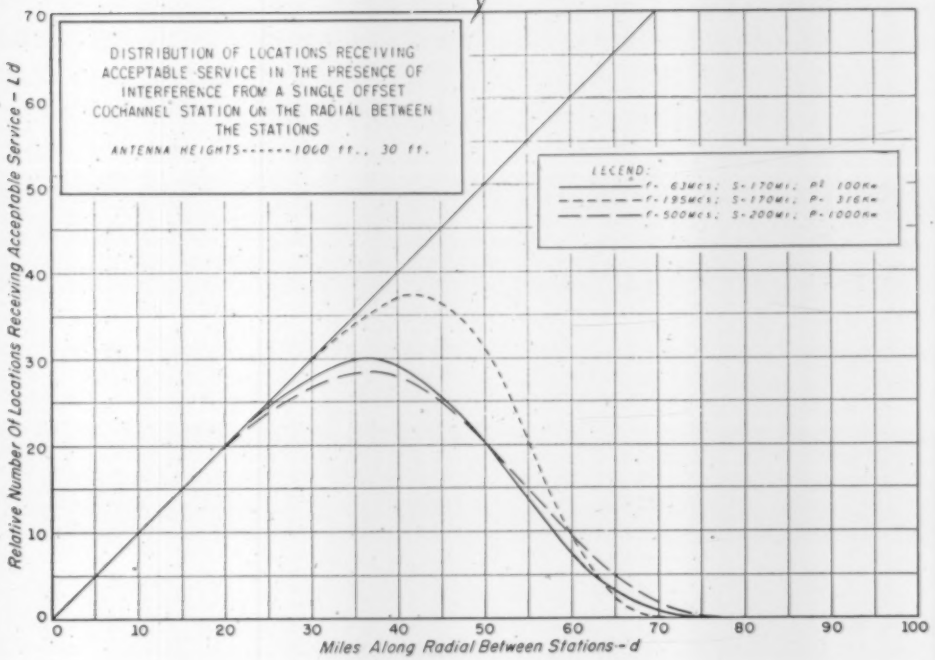
APPENDIX 25


DISTRIBUTION OF LOCATIONS RECEIVING ACCEPTABLE SERVICE IN THE PRESENCE OF INTERFERENCE FROM A SINGLE OFFSET COCHANNEL STATION ON THE RADIAL BETWEEN THE STATIONS
ANTENNA HEIGHTS------2000 ft., 30 ft.
LEGEND:
f- 63Mcs; S-170Mi; P- 100Kw
f-195Mcs; S-170Mi; P- 316Kw
f-500Mcs; S-155Mi; P-1000Kw
Relative Number Of Locations Receiving Acceptable Service - Ld
Miles Along Radial Between Stations - d

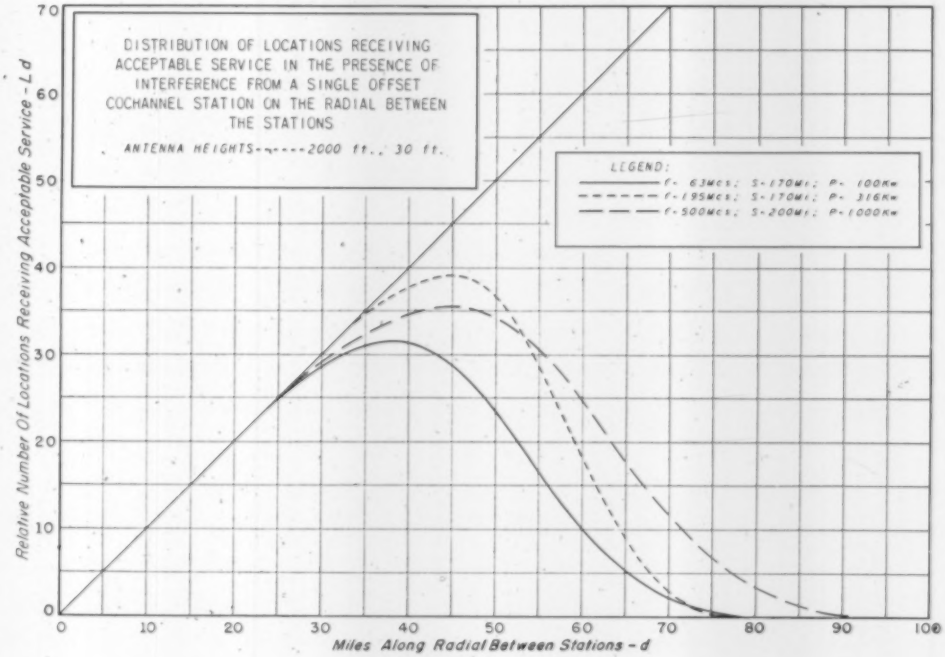
APPENDIX 26


DISTRIBUTION OF LOCATIONS RECEIVING ACCEPTABLE SERVICE IN THE PRESENCE OF INTERFERENCE FROM A SINGLE OFFSET COCHANNEL STATION ON THE RADIAL BETWEEN THE STATIONS
ANTENNA HEIGHTS-------500 ft., 30 ft.
LEGEND:
f- 63Mcs; S-170Mi; P- 100Kw
f-195Mcs; S-170Mi; P- 316Kw
f-500Mcs; S-200Mi; P-1000Kw
Relative Number Of Locations Receiving Acceptable Service - Ld
Miles Along Radial Between Stations - d

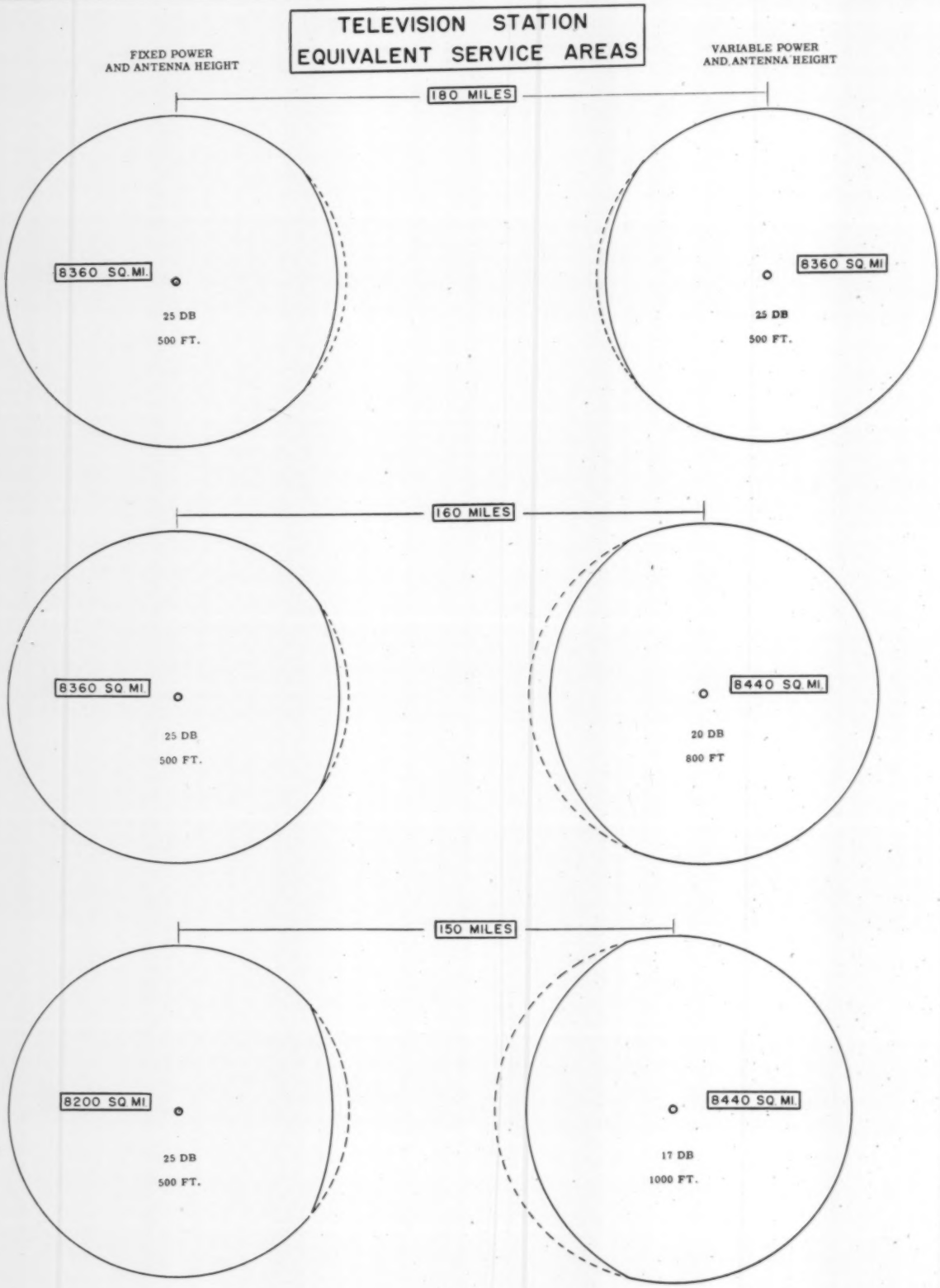
APPENDIX 27



APPENDIX 28



TELEVISION STATION EQUIVALENT SERVICE AREAS



NOTE: Diagrams above portray television station interference free "B" service areas for channels 7-13 (solid lines) based on standard interference and separations of 150, 160 and 180 miles, including offset carrier operation. Essentially equivalent service areas are obtained by varying the parameters - antenna height, power and station separation. Dotted lines show potential coverage without co-channel interference.

APPENDIX 30

Power, Transmitting Antenna Height, and Spacing Combinations to Give Same Grade B Service Contours As For Standard Spacing, Transmitting Antenna Height, and Power, Assuming Standard Power and Antenna Height For Offset Carrier Co-channel Interfering Station

TABLE II A

Frequency—63Mc/s
Standard Ht=500 ft; Hr= 30 ft.
Standard Power=20 dbk
Standard Spacing=170 mi.
Grade B Contour=41.5 mi.

P_1 (dbk)	H_1 (Ft.)	S (miles)
20	500	170
15	840	170
10	1320	170
20	340	190
15	630	190
10	1000	190
20	750	150
15	1200	150
10	1750	150
20	1210	130
15	1820	130
10	2500	130

TABLE II B

Frequency—195 Mc/s
Standard Ht=500 ft; Hr= 30 ft.
Standard Power=25 dbk
Standard Spacing=170 mi.
Grade B Contour=47.5 mi.

P_1 (dbk)	H_1 (Ft.)	S (miles)
25	500	170
20	720	170
15	1010	170
25	375	190
20	540	190
15	790	190
25	660	150
20	940	150
15	1370	150
25	1180	130
20	1640	130
15	2270	130

TABLE II C

Frequency—500 Mc/s
Standard Ht=500 ft; Hr= 30 ft.
Standard Power=30 dbk
Standard Spacing=155 mi.
Grade B Contour=33.5 mi.

P_1 (dbk)	H_1 (Ft.)	S (miles)
30	500	155
25	820	155
20	1280	155
30	250	175
25	450	175
20	750	175
30	900	135
25	1400	135
20	2150	135

APPENDIX 31

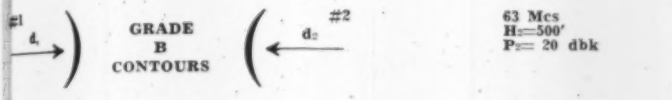


TABLE IA

DISTANCES TO GRADE B SERVICE CONTOURS IN MILES

P_1 dbk	H_1 Ft.	SPACING (MILES) 110 d_1	110 d_2	130 d_1	130 d_2	150 d_1	150 d_2	170 d_1	170 d_2	190 d_1	190 d_2	210 d_1	210 d_2
20	500	26	26	32	32	37	37	41	41	45	45	49	49
20	1000	32	22	40	29	46	36	50	41	54	45	58	49
20	2000	40	16	48	22	55	28	62	35	66	41	71	47
15	500	22	30	28	37	32	43	35	47	39	51	43	55
15	1000	27	26	34	33	40	40	44	47	48	51	52	55
15	2000	35	19	42	26	49	33	55	40	59	46	63	52
10	500	18	35	23	42	27	48	31	53	34	57	38	57*
10	1000	23	30	30	37	35	45	39	52	42	57	46	57*
10	2000	29	23	38	30	44	37	49	44	53	51	58	57

*Limited by Noise.

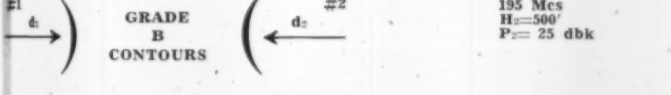


TABLE IB

DISTANCES TO GRADE B SERVICE CONTOURS IN MILES

P_1 dbk	H_1 Ft.	SPACING (MILES) 110 d_1	110 d_2	130 d_1	130 d_2	150 d_1	150 d_2	170 d_1	170 d_2	190 d_1	190 d_2	210 d_1	210 d_2
25	500	31	31	39	39	44	44	47	47	51	51	51*	51*
25	1000	38	25	46	33	53	40	57	46	61	50	64	51*
25	2000	45	18	54	25	62	33	69	40	73	45	78	50
20	500	27	35	35	42	40	48	43	51	46	51*	46*	51*
20	1000	33	29	42	37	48	44	53	50	56	51*	58*	51*
20	2000	41	21	50	29	58	37	64	44	68	49	72	51*
15	500	23	38	30	46	35	51*	39	51*	41*	51*	41*	51*
15	1000	29	32	38	41	44	48	48	51*	51	51*	53*	51*
15	2000	37	25	46	33	54	41	59	47	63	51*	67	51*

*Limited by noise.

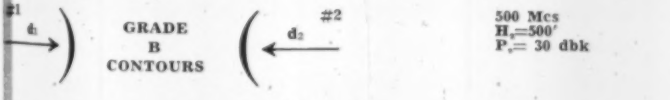


TABLE IC

DISTANCE TO GRADE B SERVICE CONTOUR IN MILES

P_1 dbk	H_1 ft.	SPACING (MILES) 115 d_1	115 d_2	135 d_1	135 d_2	155 d_1	155 d_2	175 d_1	175 d_2	195 d_1	195 d_2
30	500	22	22	28	28	34	34	40	40	46	46
30	1000	29	21	35	27	41	33	47	40	53	44
30	2000	36	17	43	23	50	30	56	37	63	44
25	500	18	27	23	33	29	39	35	45	40*	47*
25	1000	24	25	30	32	36	38	42	44	48	47*
25	2000	31	20	38	28	44	35	51	42	57	47*
20	500	15	32	19	38	24	44	30	47*	33*	47*
20	1000	20	30	25	36	31	43	37	47*	43	47*
20	2000	25	24	32	32	39	39	45	46	52	47*

*Limited by noise

APPENDIX 32

EXPECTED FIELD STRENGTH IN DB EXCEEDED AT 50 PERCENT OF THE POTENTIAL RECEIVER LOCATIONS FOR AT LEAST 50 PERCENT OF THE TIME AT A RECEIVING ANTENNA HEIGHT OF 30 FEET

Low VHF

500 Feet	1,000 Feet	2,000 Feet	Transmitter to Receiver Miles
66.5	72.6	78.3	10
53.5	60.4	66.9	20
45.2	52.6	60.0	30
38.7	46.0	54.3	40
31.7	39.1	48.1	50
24.9	33.0	42.0	60
18.5	26.8	36.2	70
12.5	20.4	30.6	80
6.8	14.1	24.9	90
3.1	8.0	18.7	100
1.0	3.5	13.0	110
—0.7	0.3	7.2	120

* * *

EXPECTED FIELD STRENGTH IN DB EXCEEDED AT 50 PERCENT OF THE POTENTIAL RECEIVER LOCATIONS FOR AT LEAST 50 PERCENT OF THE TIME AT A RECEIVING ANTENNA HEIGHT OF 30 FEET

High VHF

500 Feet	1,000 Feet	2,000 Feet	Transmitter to Receiver Miles
68.7	75.2	80.1	10
57.2	64.3	71.5	20
49.8	57.7	66.0	30
42.0	51.0	61.0	40
32.5	42.2	54.0	50
23.2	33.8	46.7	60
14.5	25.7	39.0	70
5.3	16.2	31.0	80
—2.0	8.0	22.9	90
—6.6	0.0	14.3	100
—8.8	—5.0	6.3	110
—10.7	—8.1	0.3	120

* * *

EXPECTED FIELD STRENGTH IN DB EXCEEDED AT 50 PERCENT OF THE POTENTIAL RECEIVER LOCATIONS FOR AT LEAST 50 PERCENT OF THE TIME AT A RECEIVING ANTENNA HEIGHT OF 30 FEET

UHF

500 Feet	1,000 Feet	2,000 Feet	Transmitter to Receiver Miles
66.5	72.6	78.3	10
53.5	60.4	66.9	20
45.2	52.6	60.0	30
38.7	46.0	54.3	40
31.7	39.1	48.1	50
24.9	33.0	42.0	60
18.5	26.8	36.2	70
12.5	20.4	30.6	80
6.8	14.1	24.9	90
3.1	8.0	18.7	100
1.0	3.5	13.0	110
—0.7	0.3	7.2	120

APPENDIX 33

EXPECTED FIELD STRENGTH IN DB EXCEEDED AT 50 PERCENT OF THE POTENTIAL RECEIVER LOCATIONS FOR AT LEAST 10 PERCENT OF THE TIME AT A RECEIVING ANTENNA HEIGHT OF 30 FEET

Low VHF

500 Feet	1,000 Feet	2,000 Feet	Transmitter to Receiver Miles
27	33	41.3	70
23	28.5	36.5	80
19	24	32.3	90
15.5	19.9	28.2	100
13.2	16	23.8	110
11.8	13	19.7	120
10.0	10.5	15.5	130
8.4	8.4	12.5	140
6.8	6.8	10	150
5.0	5.0	7.5	160
3.1	3.1	4.7	170
1.5	1.5	2	180
—0.1	—0.1	—0.1	190
—2	—2	—2	200
—5.1	—5.1	—5.1	220
—8.2	—8.2	—8.2	240
—11.1	—11.1	—11.1	260
—14.3	—14.3	—14.3	280
—17.6	—17.6	—17.6	300

* * *

EXPECTED FIELD STRENGTH IN DB EXCEEDED AT 50 PERCENT OF THE POTENTIAL RECEIVER LOCATIONS FOR AT LEAST 10 PERCENT OF THE TIME AT A RECEIVING ANTENNA HEIGHT OF 30 FEET

High VHF

500 Feet	1,000 Feet	2,000 Feet	Transmitter to Receiver Miles
26	34	44.3	70
20	28.2	38.5	80
15	22.6	33	90
11.2	16.3	27.2	100
9	12.5	22	110
6.8	9	16.9	120
5.2	5.8	13.5	130
3.5	3.8	9.9	140
1.8	1.8	6.5	150
0.0	0.0	3.5	160
—1.5	—1.5	0.0	170
—3.2	—3.2	—3.0	180
—5.0	—5.0	—5.0	190
—6.4	—6.4	—6.4	200
—9.3	—9.3	—9.3	220
—12.8	—12.8	—12.8	240
—16.1	—16.1	—16.1	260
—19.2	—19.2	—19.2	280
—22.3	—22.3	—22.3	300

* * *

EXPECTED FIELD STRENGTH IN DB EXCEEDED AT 50 PERCENT OF THE POTENTIAL RECEIVER LOCATIONS FOR AT LEAST 10 PERCENT OF THE TIME AT A RECEIVING ANTENNA HEIGHT OF 30 FEET

UHF

500 Feet	1,000 Feet	2,000 Feet	Transmitter to Receiver Miles
31	34	41.5	70
28	30	37	80
24.8	26.5	32.5	90
21.8	23	28.3	100
18.6	19.5	24	110
15.8	16.3	20	120
12.8	13.2	15.9	130
10	10.3	12	140
7	7	8.3	150
4.1	4.1	4.7	160
1.0	1.0	1.0	170
—1.9	—1.9	—1.9	180
—4.5	—4.5	—4.5	190
—7.5	—7.5	—7.5	200
—13.2	—13.2	—13.2	220
—19	—19	—19	240
—25	—25	—25	260
—30.5	—30.5	—30.5	280
—36.1	—36.1	—36.1	300

CHRONOLOGY OF THE TELEVISION FREEZE

SEPT. 30, 1948 – APRIL 14, 1952

May 6, 1948: Broadcast and non-broadcast sharing of TV channels abolished; Channel 1 deleted; new allocation plan (VHF) proposed.

June-July 1948: Hearing on new allocation plan, raising questions as to tropospheric interference and related problems.

Aug. 27, 1948: Because of these questions, FCC schedules FCC-industry conference to consider desirability of revising engineering standards.

Sept. 13-14, 1948: FCC-industry conference, slating technical sessions for November-December looking toward revision of standards.

Sept. 20-23, 1948: UHF hearing.

Sept. 30, 1948: VHF freeze announced.

Nov. 30-Dec. 3, 1948: FCC-industry engineering conference; Ad Hoc Committee is appointed to study VHF propagation factors.

May 26, 1949: Preliminary plans for far-reaching VHF-UHF hearing announced, with color among subjects to be considered.

July 11, 1949: FCC announces formal proposals for the hearing, including VHF-UHF allocation plan envisioning use of 42 UHF channels along with present 12 VHF channels.

Sept. 26, 1949: First phase of hearing, dealing with color, gets under way.

Nov. 22, 1949: Color sessions recess; field-test notice issued by FCC.

Feb. 20, 1950: Color hearing resumes.

May 26, 1950: Color hearing ends.

July 11, 1950: FCC begins deliberations on color case, the participants having submitted final summations July 10; also on July 11 the Condon Committee submits its color TV report to the Senate Interstate and Foreign Commerce Committee.

Sept. 1, 1950: FCC issues its "First Report" on color, favoring CBS system but advancing plan for manufacture of "bracket sets" as means of delaying final decision to permit further studies.

Sept. 29, 1950: Manufacturers say they cannot meet FCC's deadline for manufacture of bracket sets.

Oct. 11, 1950: FCC issues "Second Report," adopting CBS color standards effective Nov. 20.

Oct. 16, 1950: Hearings commence on second phase of overall TV proceedings—"general issues," including VHF, UHF, Stratovision and other questions except specific city-by-city channel allocations.

Oct. 17, 1950: RCA and two subsidiaries, NBC and RCA Victor Distributing Corp., file suit against color decision in federal district court in Chicago.

Nov. 10, 1950: Hearings concluded on "general issues."

Nov. 16, 1950: The Chicago court, after two days of hearings in which seven manufacturers, servicemen and others took RCA's side, grants temporary restraining order delaying effectiveness of color standards pending further decision of the court.

Nov. 27, 1950: Hearings on reservation of channels for noncommercial educational TV stations, last portion of "general" phase of hearing, gets under way. After recess Dec. 8 hearings resumed Jan. 22, 1951, were completed Jan. 31, 1951.

Dec. 22, 1950: The Chicago court, in 2-1 decision, upholds FCC's approval of the CBS color system, but prohibits the start of commercial operation pending a ruling by the Supreme Court. Judge Walter LaBuy dissents. The temporary stay order is continued until April 1, 1951, or such time as the Supreme Court dissolves the restraint.

Jan. 26, 1951: RCA initiates appeal to U. S. Supreme Court for itself and two subsidiaries, NBC and RCA Victor Distributing Corp.

Feb. 5, 1951: FCC, CBS and Justice Dept. jointly ask Supreme Court to affirm Chicago court's judgment but to dissolve the temporary restraining order on commercial start of CBS color.

Feb. 26, 1951: RCA, joined by Emerson Radio & Phonograph Corp., answers motion to affirm.

March 5, 1951: Supreme Court sets March 26 for start of oral argument on color case.

March 21, 1951: FCC issues "Third Report," proposing to allocate either 65 or 70 UHF channels for TV service to augment existing 12 VHF channels; also proposed to reserve 209 assignments for noncommercial, educational use out of the 1,965 allocated to cities and communities throughout the U. S.

March 26-27 1951: Supreme Court hears oral argument of RCA, Emerson, CBS and the Solicitor General, who presents the government's case.

May 28, 1951: Supreme Court, by 8-0 vote, affirms lower court ruling in favor of CBS color. Justice Frankfurter issued a "dubitante," neither concurring nor dissenting.

June 21, 1951: FCC announces that it will not take action to authorize partial lifting of freeze.

June 28, 1951: FCC hears oral argument, requested by Federal Communications Bar Assn. and others, on legality of general allocations table incorporated in rules and reservation of channels for noncommercial, educational use.

July 12, 1951: In "Fourth Report," FCC denies common carrier request for five UHF frequencies designated these frequencies for TV. This makes 70 TV channels in UHF band.

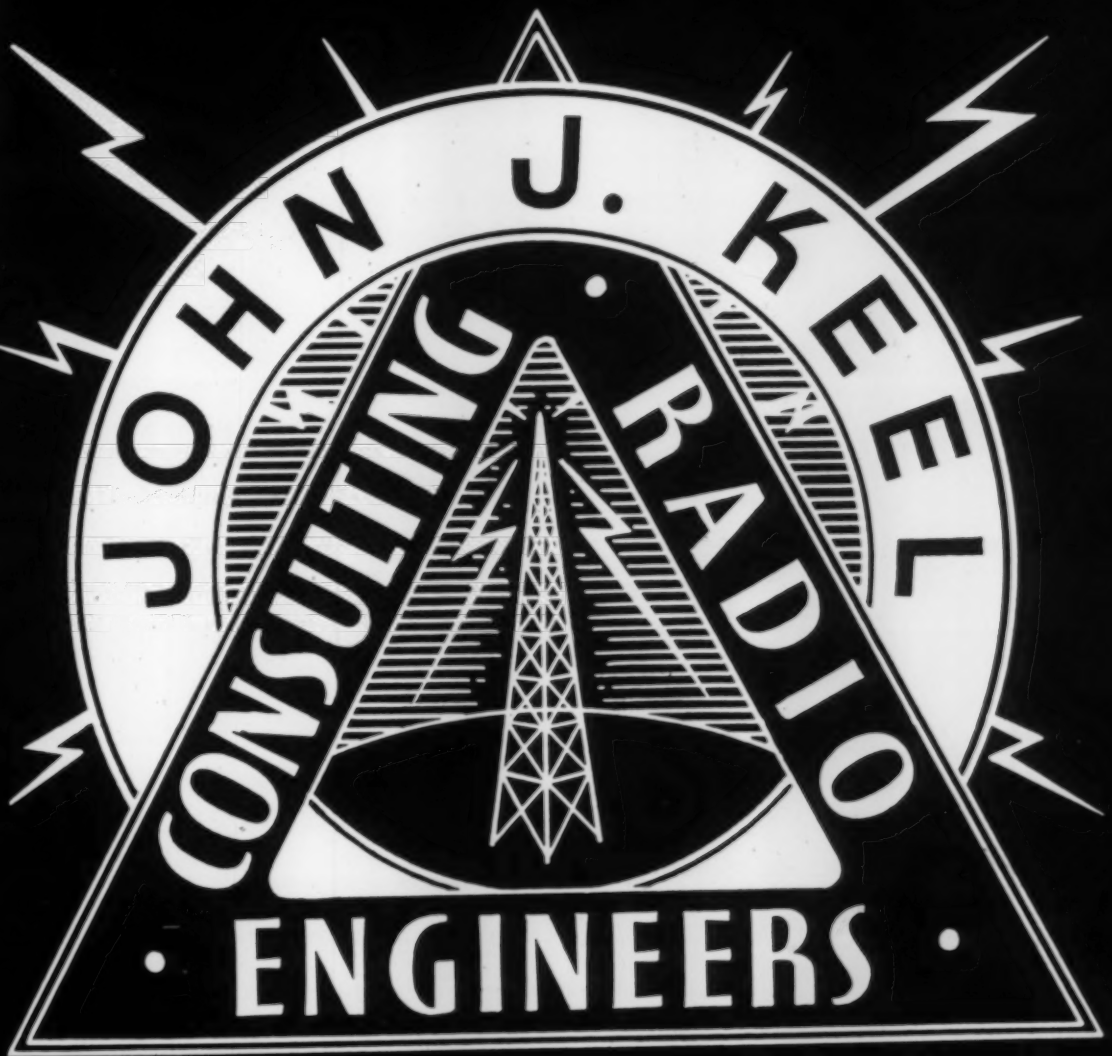
July 13, 1951: FCC upholds its right to include TV allocations in rules and to reserve channels for noncommercial, educational stations.

July 25, 1951: "Paper hearing" to run from Aug. 27 to Nov. 26 (later extended to Dec. 17) announced by FCC.

July 26, 1951: "Fifth Report" by FCC authorizes existing TV stations to increase transmitter power to full capacity provided effective radiated power of metropolitan stations does not exceed 50 kw. Score or more stations apply for higher powers.

Dec. 17, 1951: Final filing in written hearings are received, bringing total of comments, oppositions and pleadings to more than 1,500. FCC staff begins full scale study of filings, looking to final report on TV rules, standards and city-by-city allocations.

April 14, 1952: FCC issues "Sixth Report" to lift freeze.



TELEVISION AND STANDARD BROADCASTING ALLOCATION,
APPLICATIONS, FIELD ENGINEERING, AND HEARINGS BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION

1121 E. Capitol St. LIncoln 4—5131

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